Touch POS System

SERIES 8802

Operation Manual

Version 1.0

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CHAPTER 1 SpecificationIntroduction

Preview

The New Age of POS with its integrated TouchPOS. The 8802 is designed on NB base with Intel Celeron M processor 1.5 GHz, One slot of DDR DIMM memory max up to 1GB; 12.1" TFT-LCD with resistive touch screen; built-in VGA, LAN chip, Internal IDE Hard disk (20GB or above); includes Magnetic card reader and 20X2 customer VFD display, XGA 1024 x 768 Resolution, wireless 802.11 b/g.

Thus designation helps user easy and comfortable to handling. Its multi-functional capability makes it suitable for software developments under Windows XP, XP Embedded, XP professional for Embedded, WIN 2000 professional Embedded, WIN NT 4.0, Linux, Redhat 7.2, WIN98, ME.

The brand new Touch POS 8802 has been designed with all advantages from POS series, but less cost to customer with its interactive transaction, RFID and smart card reader design provides multiple clerk access and customer database management, suitable and superior for super-market; hotel; convenience store; restaurants and any organization or store that needs point of service.
Following description helps user understand what integrated part in 8802 TouchPOS.

Notes:

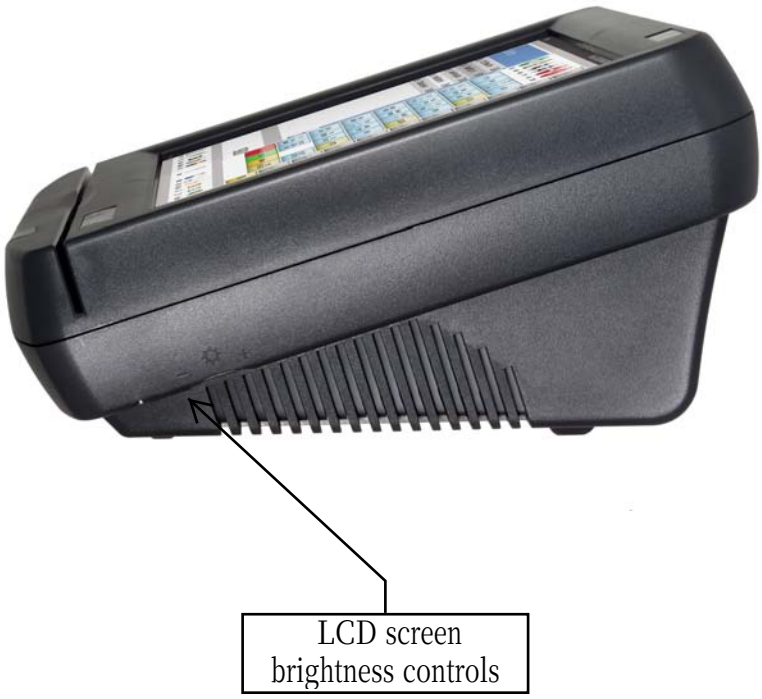
Must to adjust display setting in BIOS first.

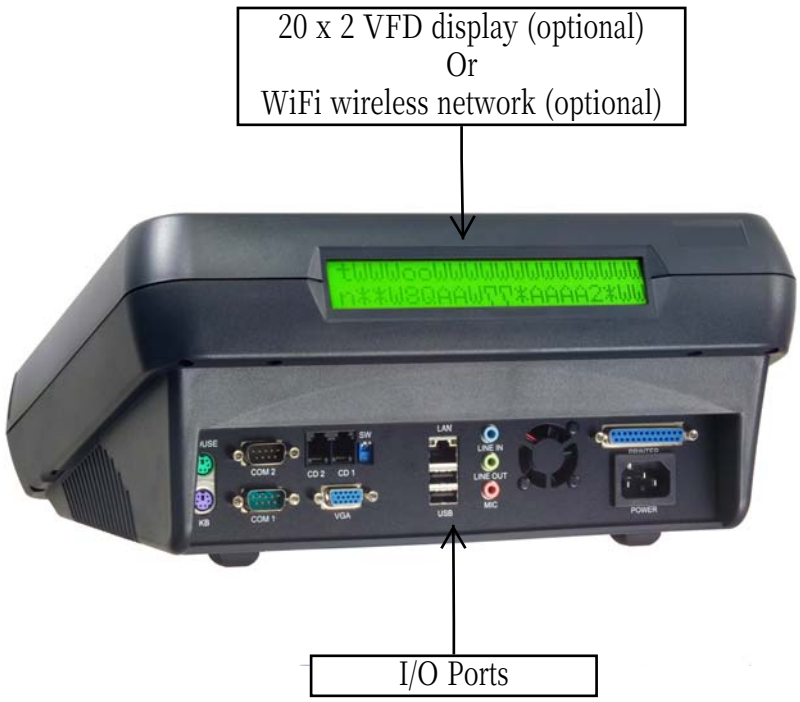
Advanced Chipset Features

On-Chip VGA Setting → **Boot Display [CRT+LCD]**

Panel Type [1024x768 18Bit 1CH]

CHAPTER 2 Appearance





COM1/COM2: Standard DB9 PIN Serial port

Mouse: PS2 mouse socket

K/B: PS2 Keyboard socket

USB: USB port X 2

VGA: 15 Pins VGA Connector

LAN: Ethernet connector

Multi-Media: Line Out / MIC / Line-In

CD1/CD2: Cash Draw 1(beside S/W) and Cash Draw 2

S/W: Switch button – S/W1 S/W2; ↓ = ON, ↑= OFF (Default S/W1=OFF , S/W2=OFF)

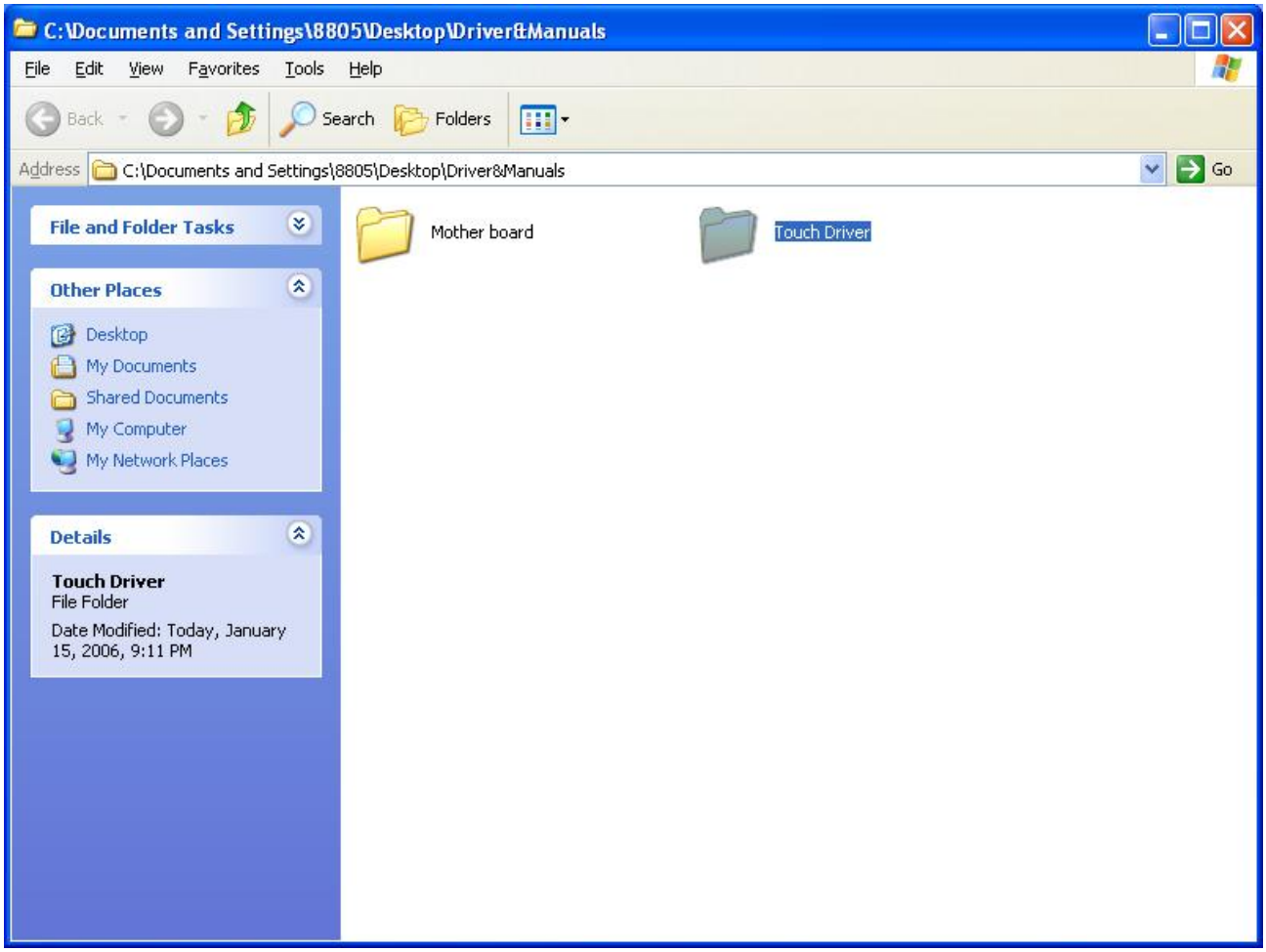
Power: Connect to ATX power supply

CAUTION:While installing any additional hardware device, please make sure to shut down the computer power.
(USB device is not subject to the limits.)

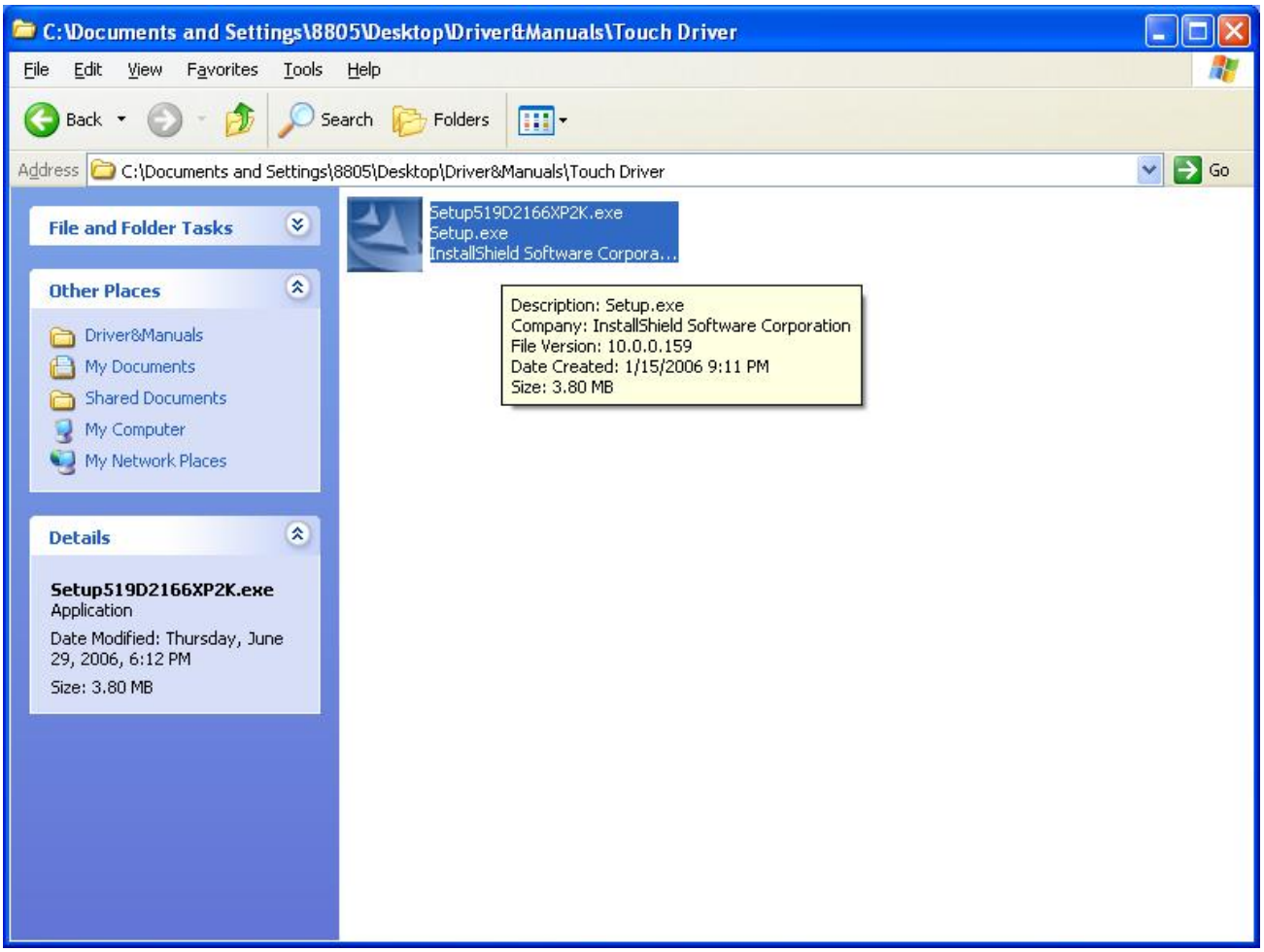
CHAPTER 3 Driver Installation

Touch Drivers

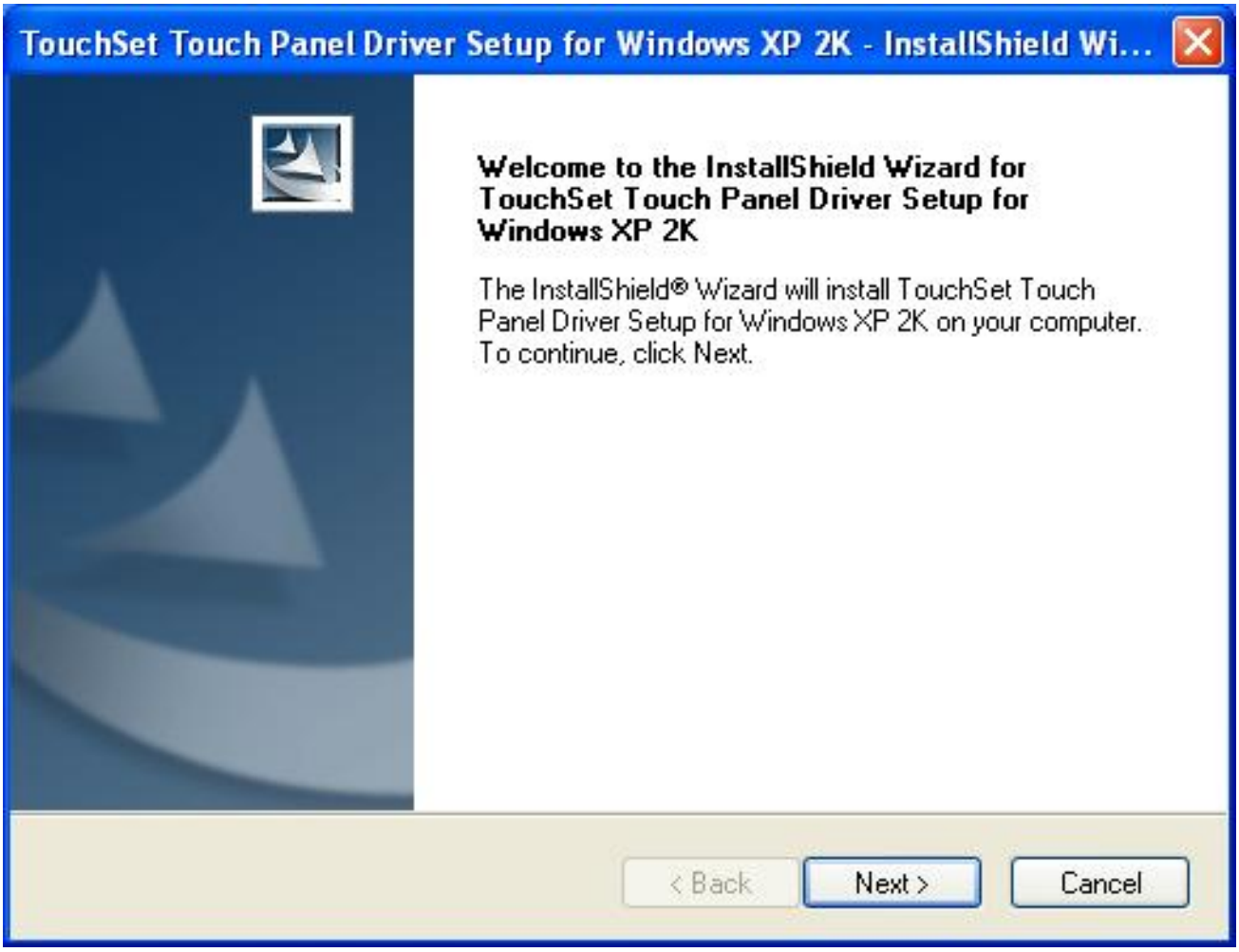
Insert CD Rom and select driver & manual folder.



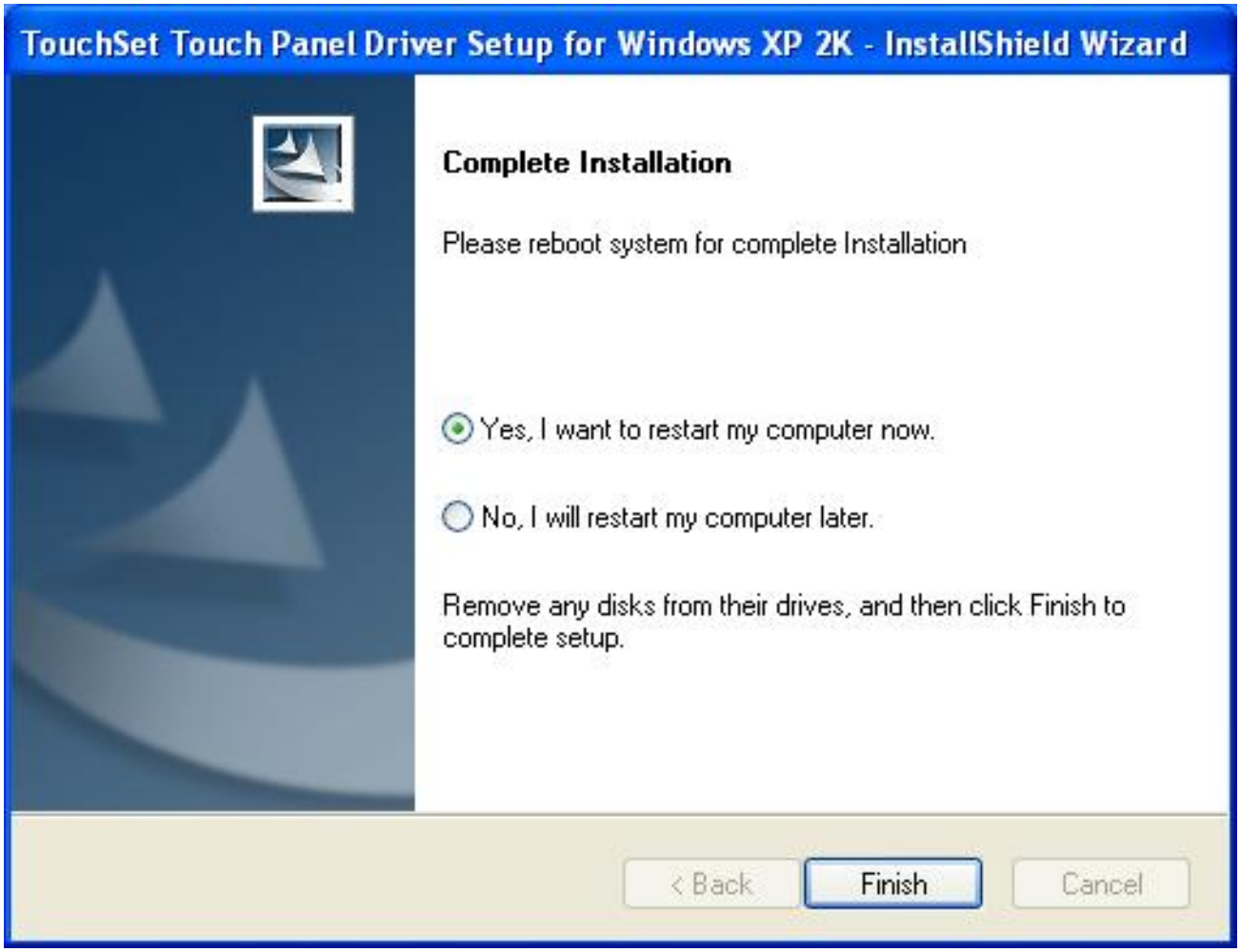
Select Touch driver folder.



Access setup of 519d2166xp2k.exe


TouchSet Touch Panel Driver Setup for Windows XP 2K - InstallShield Wi...
Welcome to the InstallShield Wizard for TouchSet Touch Panel Driver Setup for Windows XP 2K
The InstallShield® Wizard will install TouchSet Touch Panel Driver Setup for Windows XP 2K on your computer. To continue, click Next.
< Back
Next >
Cancel

Skip out the previous setup screen and select next step.

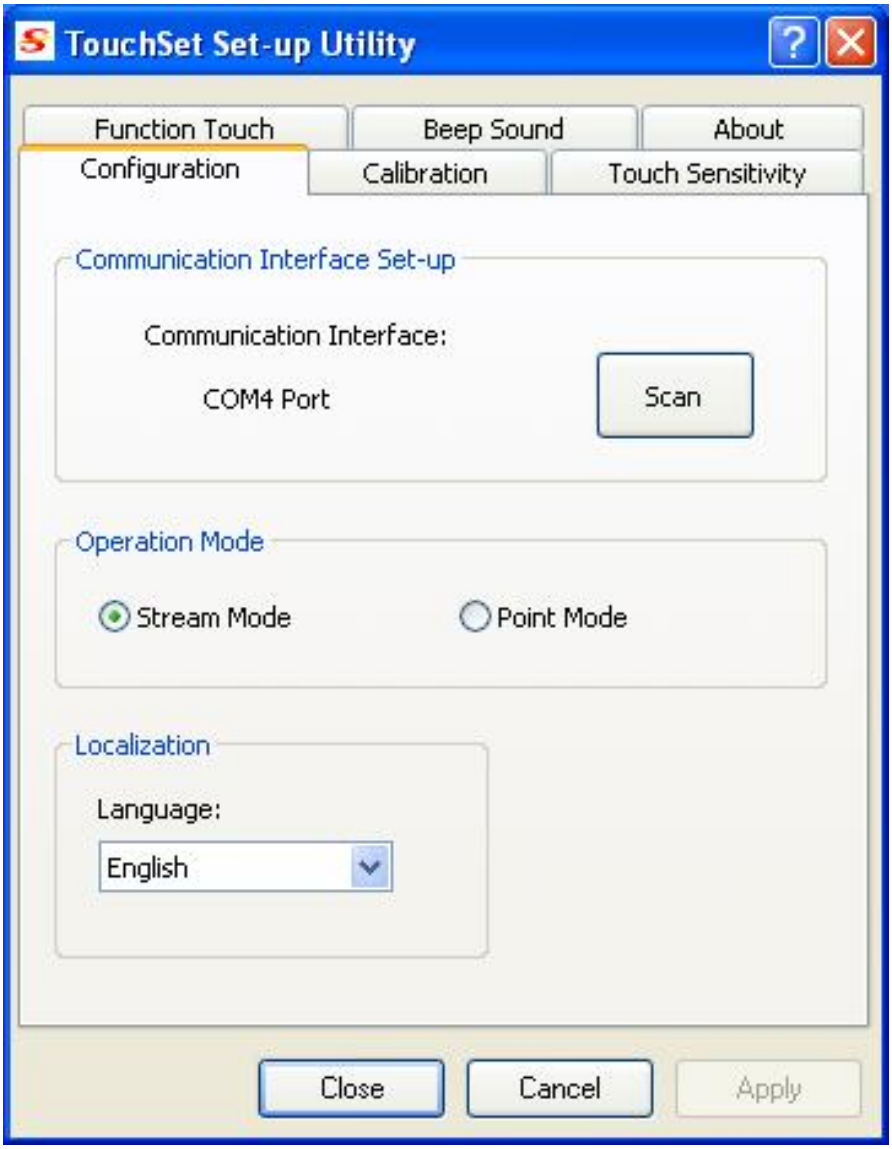

TouchSet Touch Panel Driver Setup for Windows XP 2K - InstallShield Wizard
Complete Installation
Please reboot system for complete Installation
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish
Cancel

After installation

System will require reboot

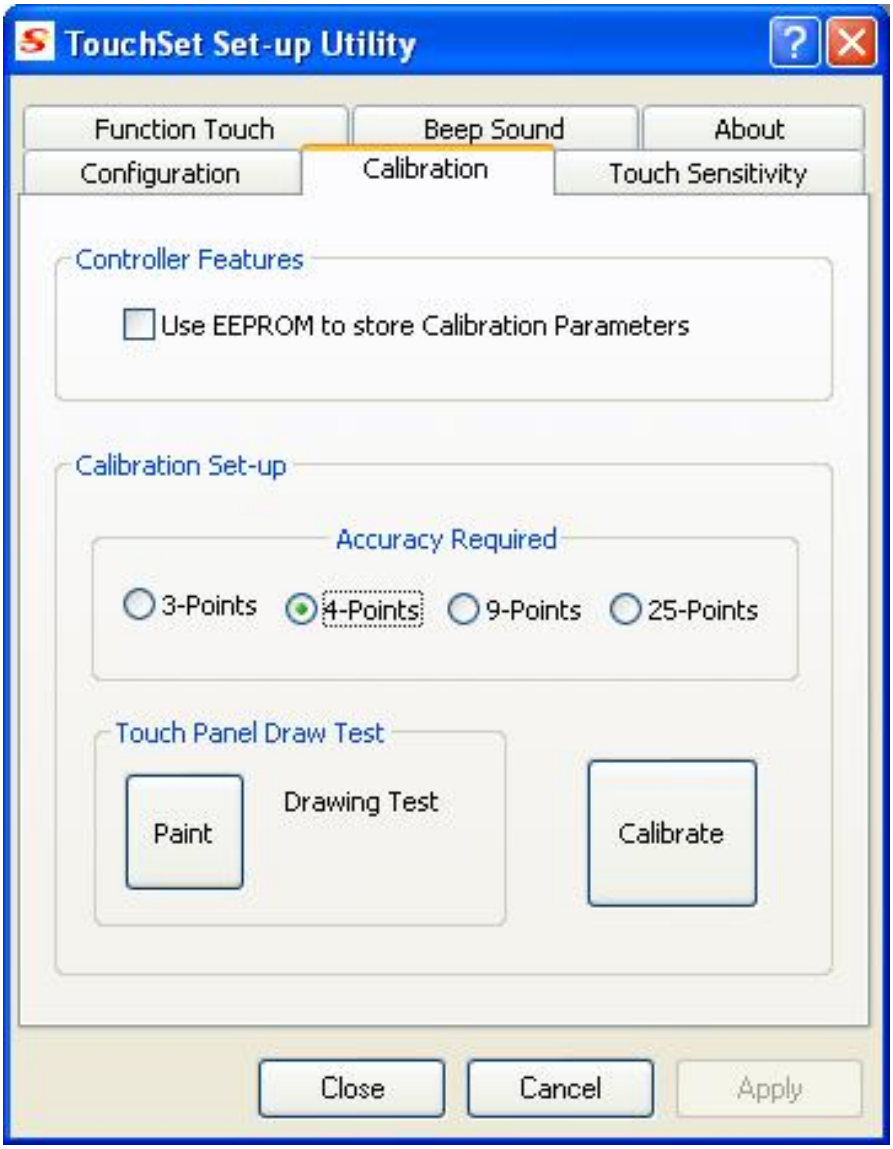
select "YES"

When first time complete Touch installation, require processing the cursor accuracy calibration, Search for the Touchset utility shortcut on the desktop and select Touchset utility to set up.



When configuration window appear, select the language which you desire

(As above selected picture explanation)



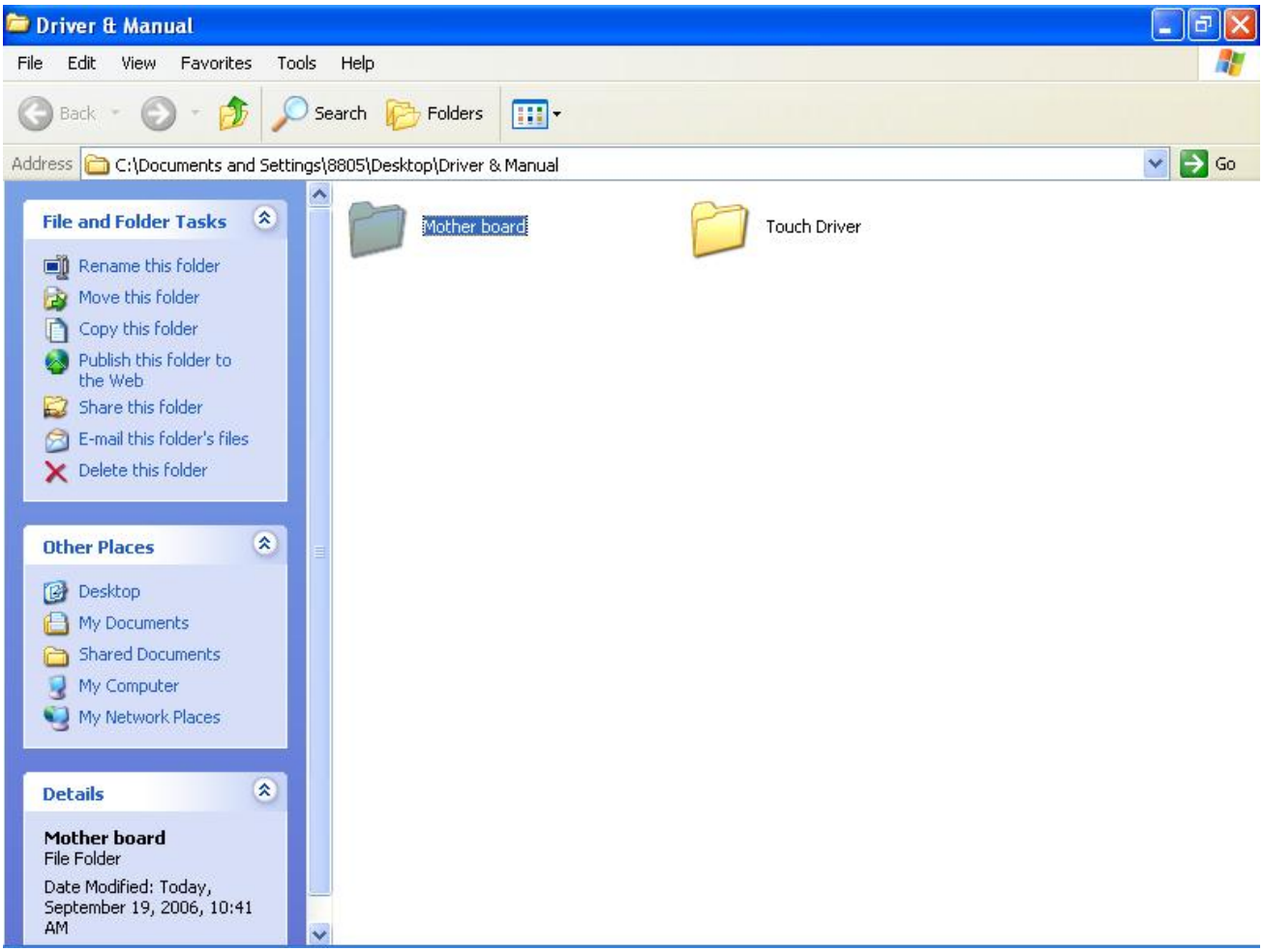
Than to select calibration function and select numbers of calibration point first (above picture shows select by 4 numbers) next to click on calibrate button.

The screen will shows as above picture, use the Touch pen to point on dot to align the cursor, if the actual alignment has too much difference than the system will skip back to previous screen and require calibration once again.

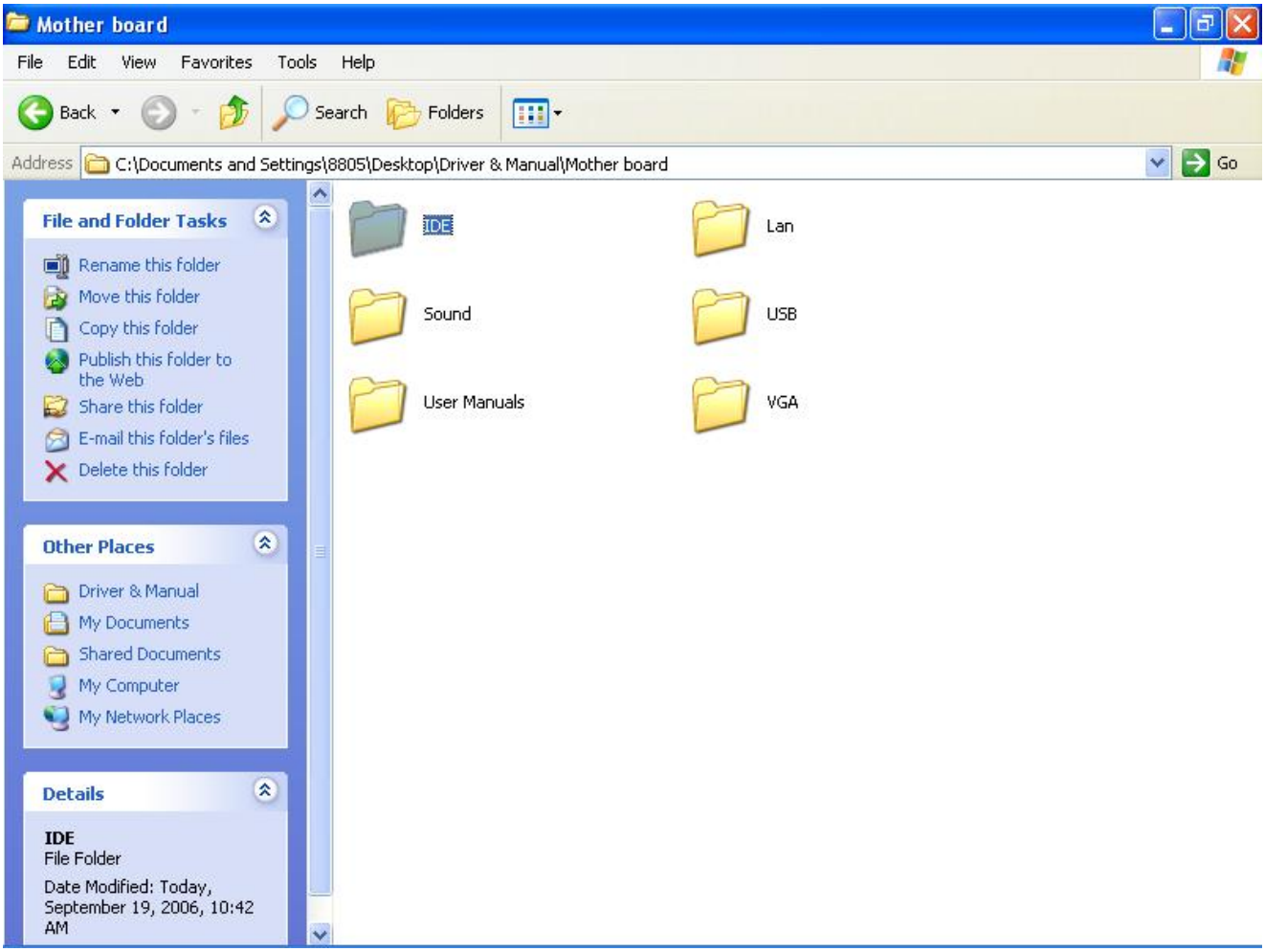
The numbers of the calibration point shows on the screen will depend on the number you have set previously, after complete system will skip back to desktop (if the cursor still not accurate please repeat the calibration again).

IDE Drivers

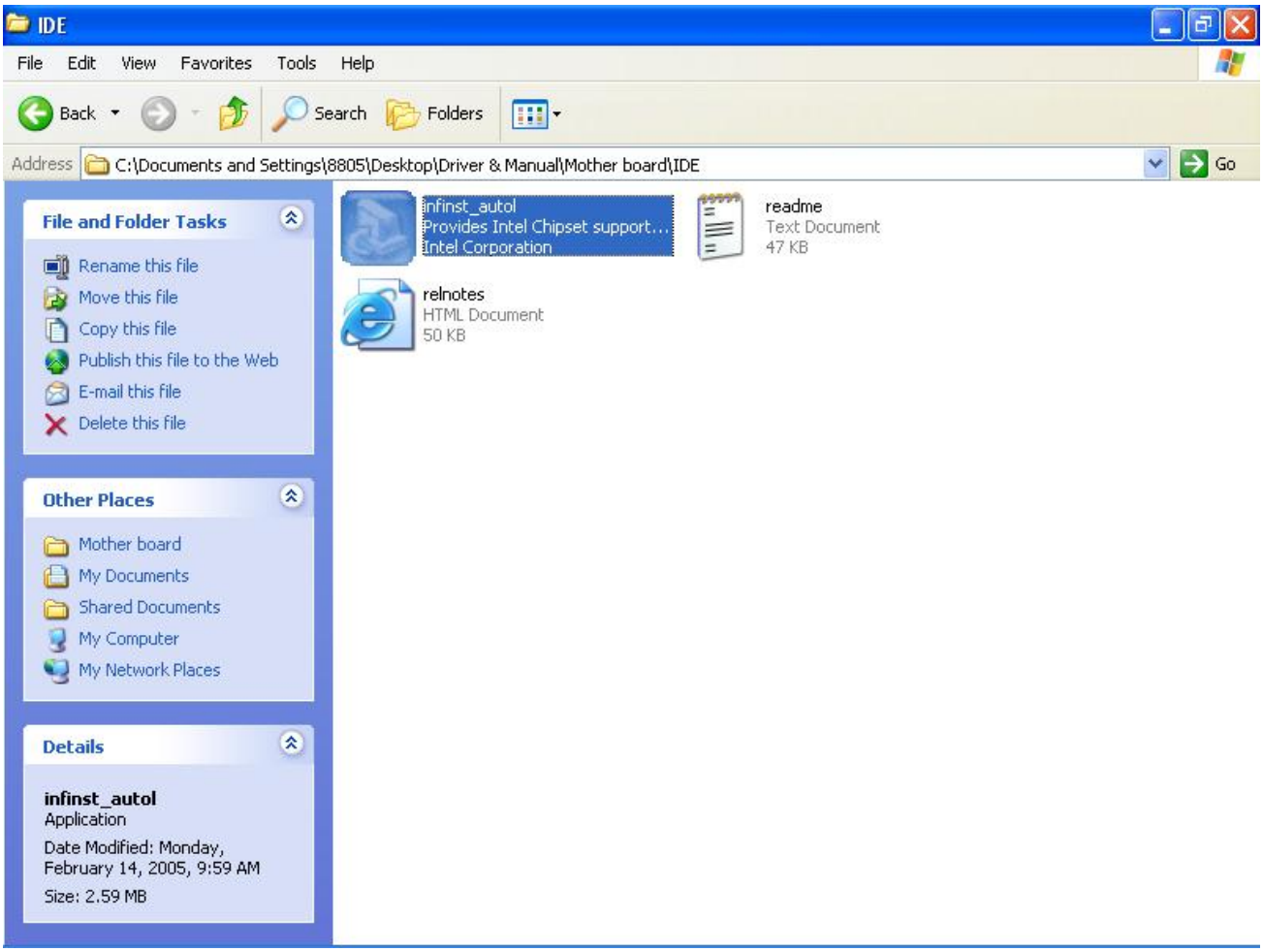
Insert CD Rom and select driver & manual file folder.



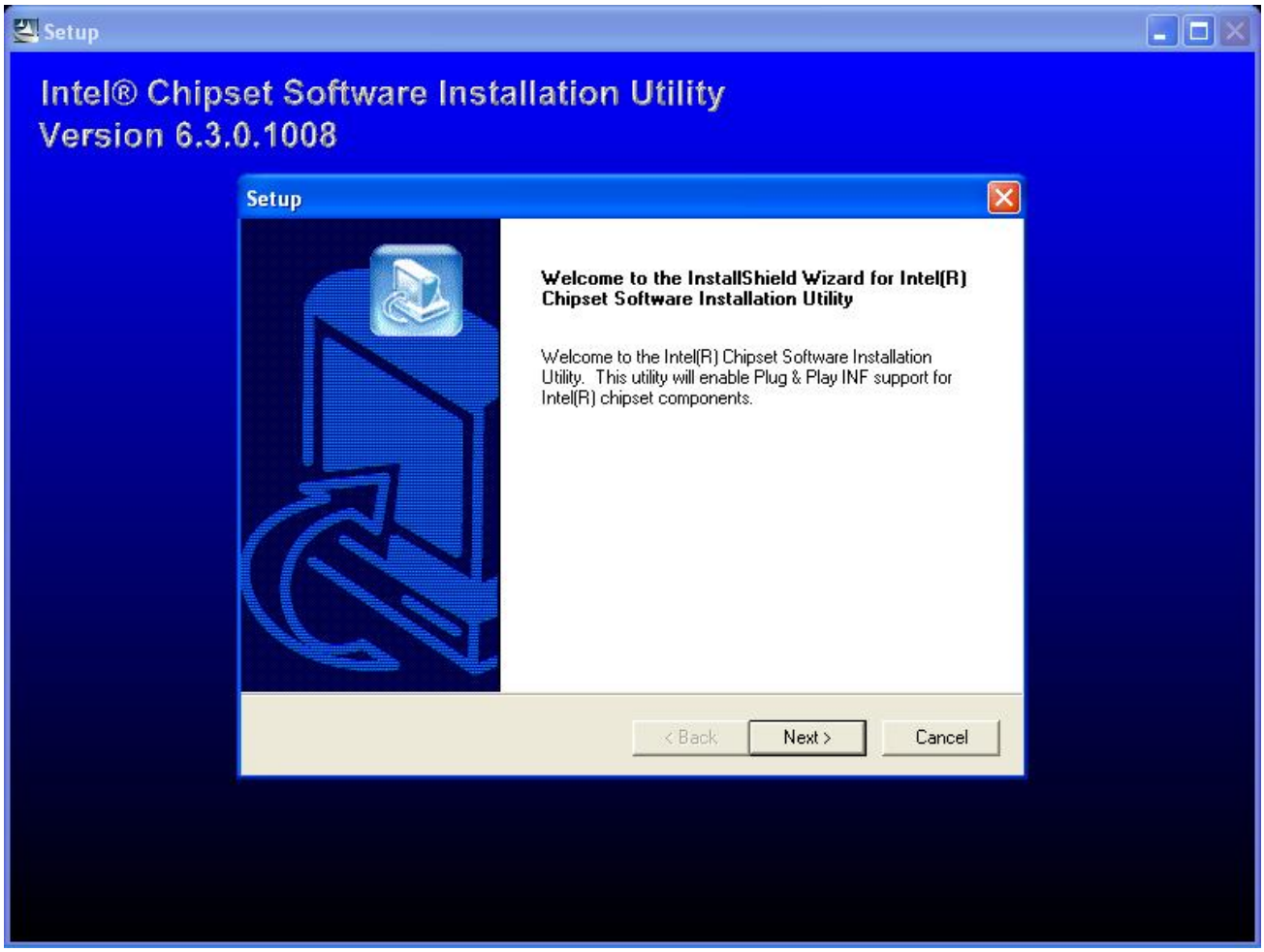
Select the mother board folder.



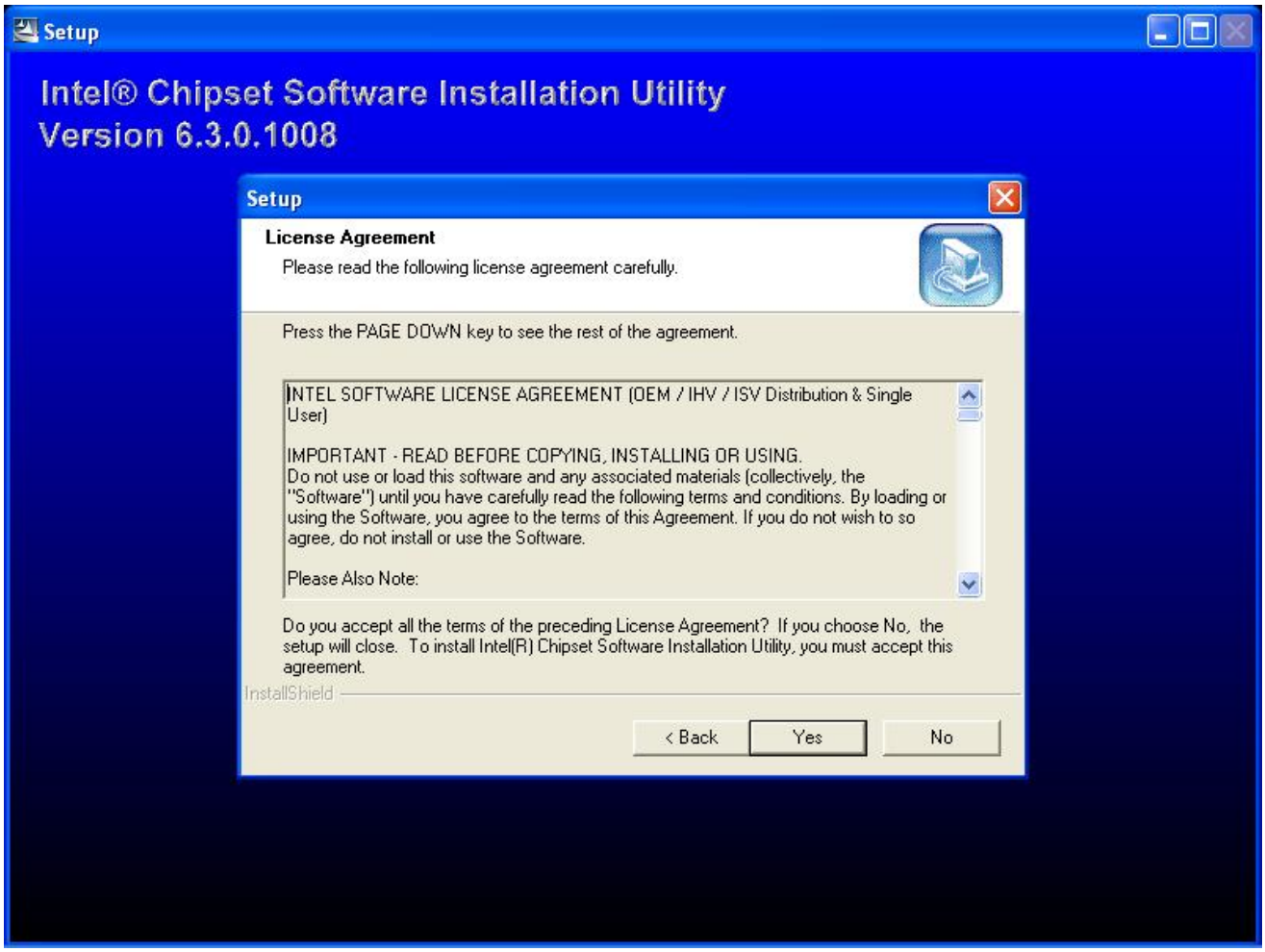
And select IDE folder.



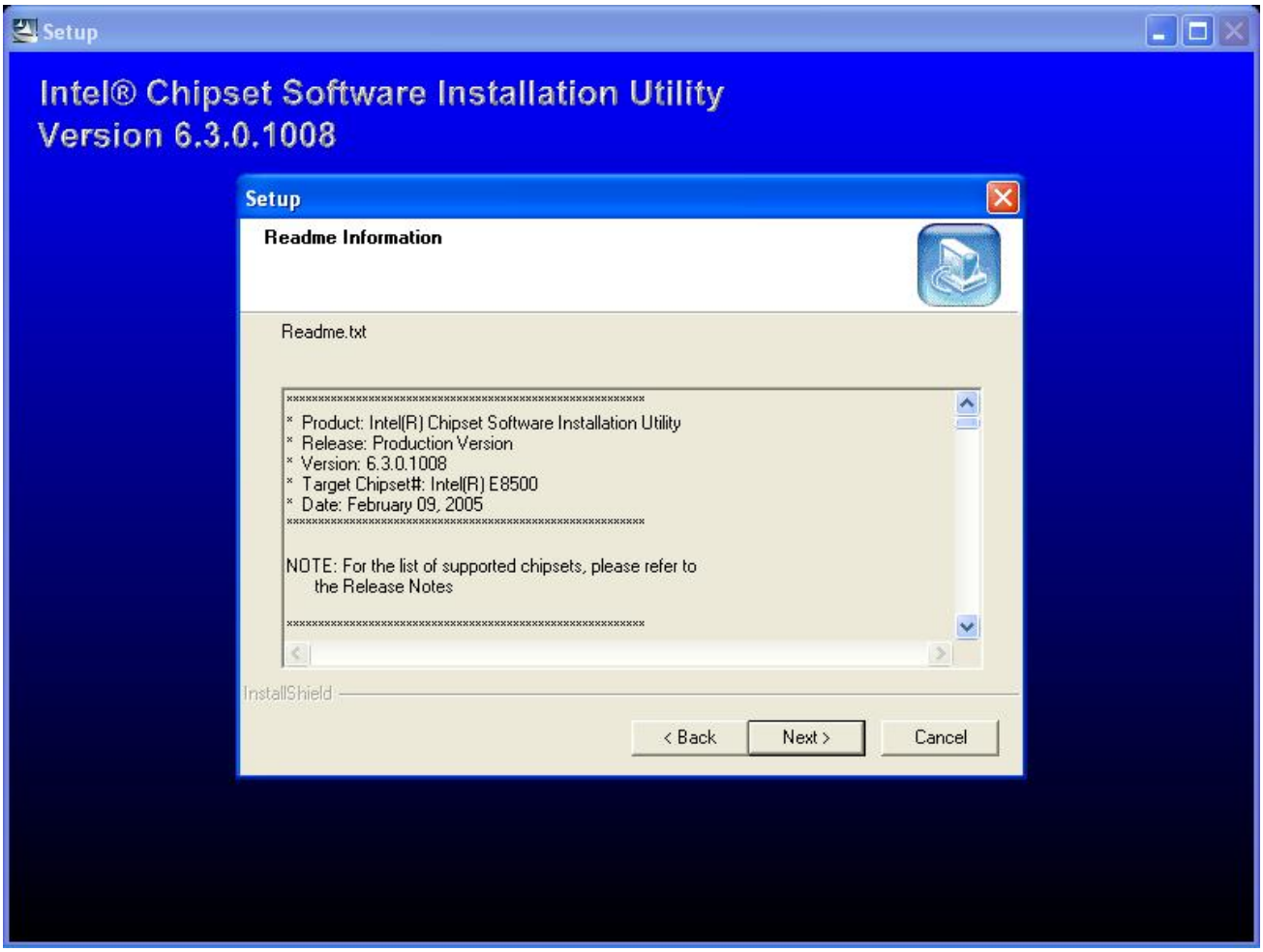
Access the infinst_autol.exe


Setup
Intel® Chipset Software Installation Utility
Version 6.3.0.1008
Setup
Welcome to the InstallShield Wizard for Intel(R) Chipset Software Installation Utility
Welcome to the Intel(R) Chipset Software Installation Utility. This utility will enable Plug & Play INF support for Intel(R) chipset components.
< Back
Next >
Cancel

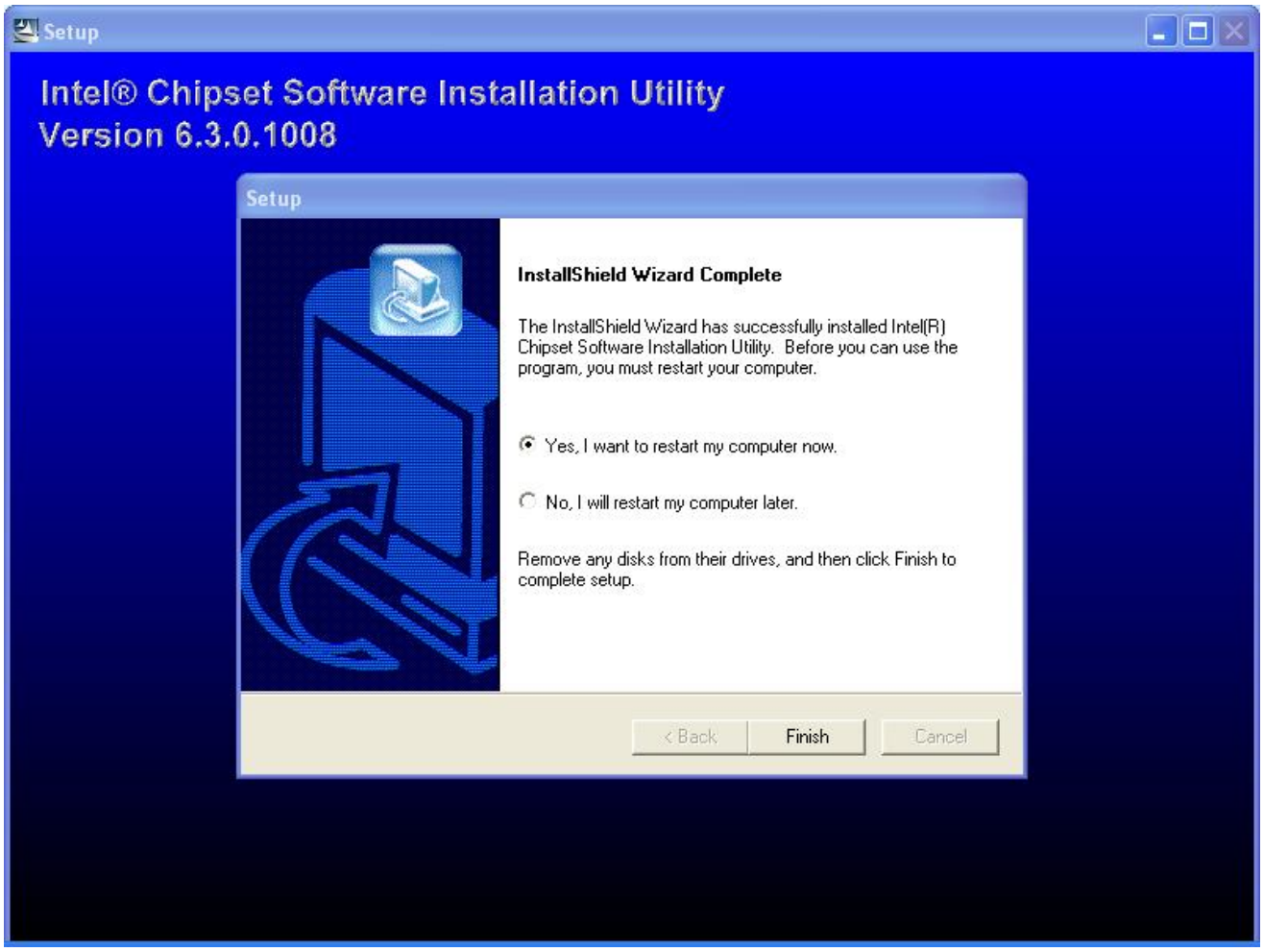
When the setup screen appears than to select next step.


Setup
Intel® Chipset Software Installation Utility
Version 6.3.0.1008
Setup
License Agreement
Please read the following license agreement carefully.
Press the PAGE DOWN key to see the rest of the agreement.
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.
Please Also Note:
Do you accept all the terms of the preceding License Agreement? If you choose No, the setup will close. To install Intel(R) Chipset Software Installation Utility, you must accept this agreement.
InstallShield
< Back
Yes
No

Select yes to accept authorization agreement.



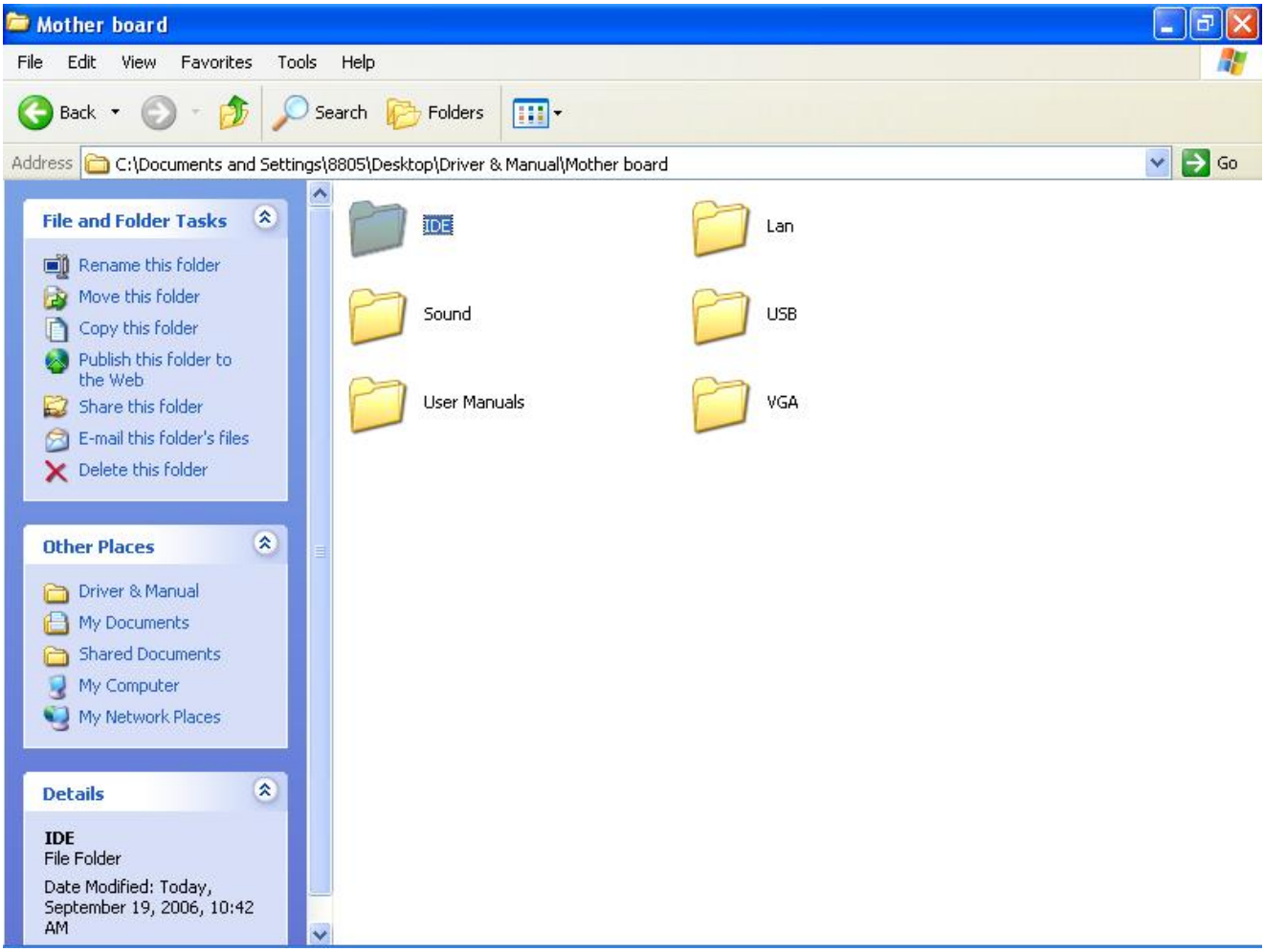
Select next step to accept the software understanding agreement.


Setup
Intel® Chipset Software Installation Utility
Version 6.3.0.1008
Setup
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed Intel(R) Chipset Software Installation Utility. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish
Cancel

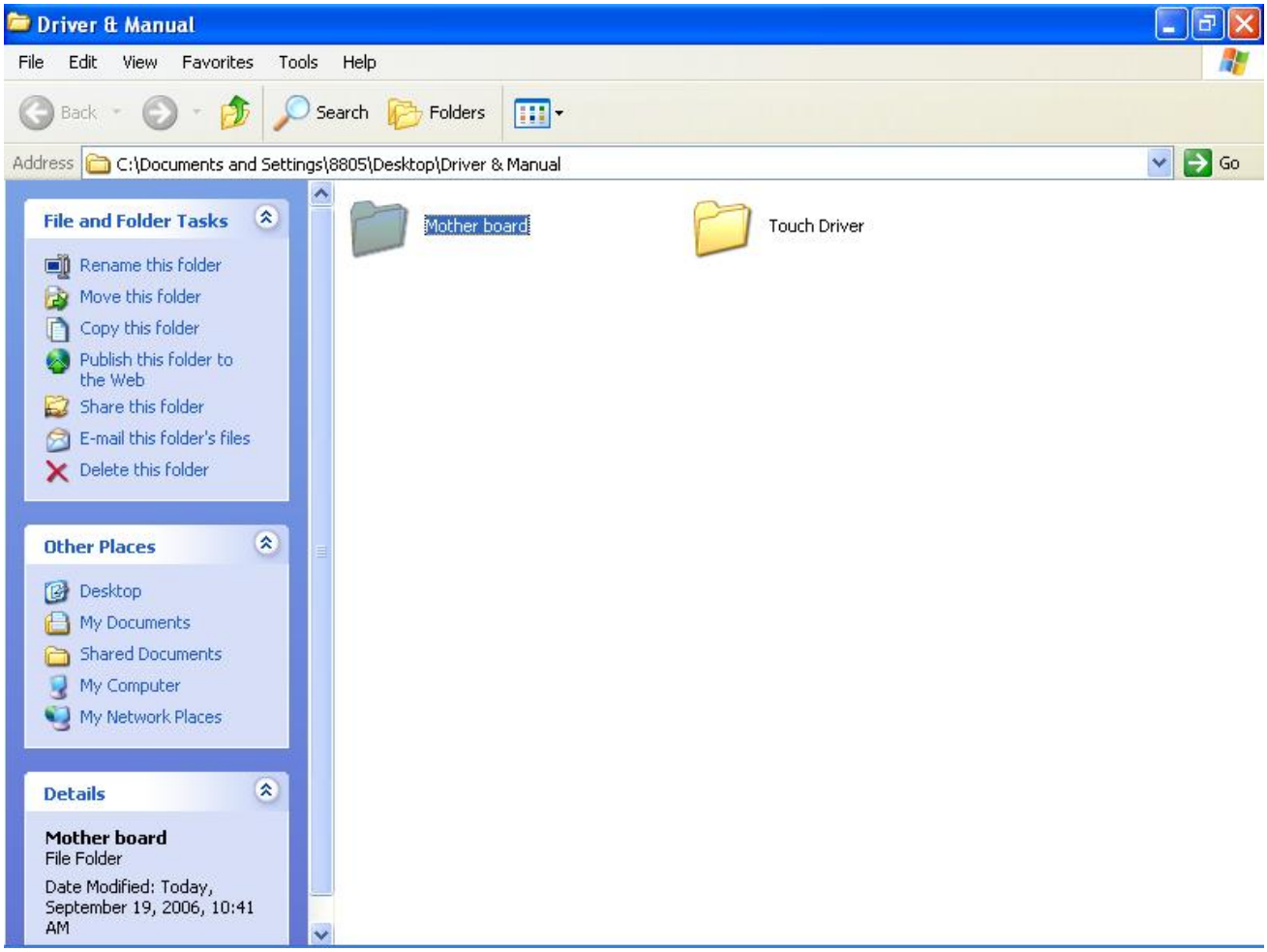
After installation

System will require reboot

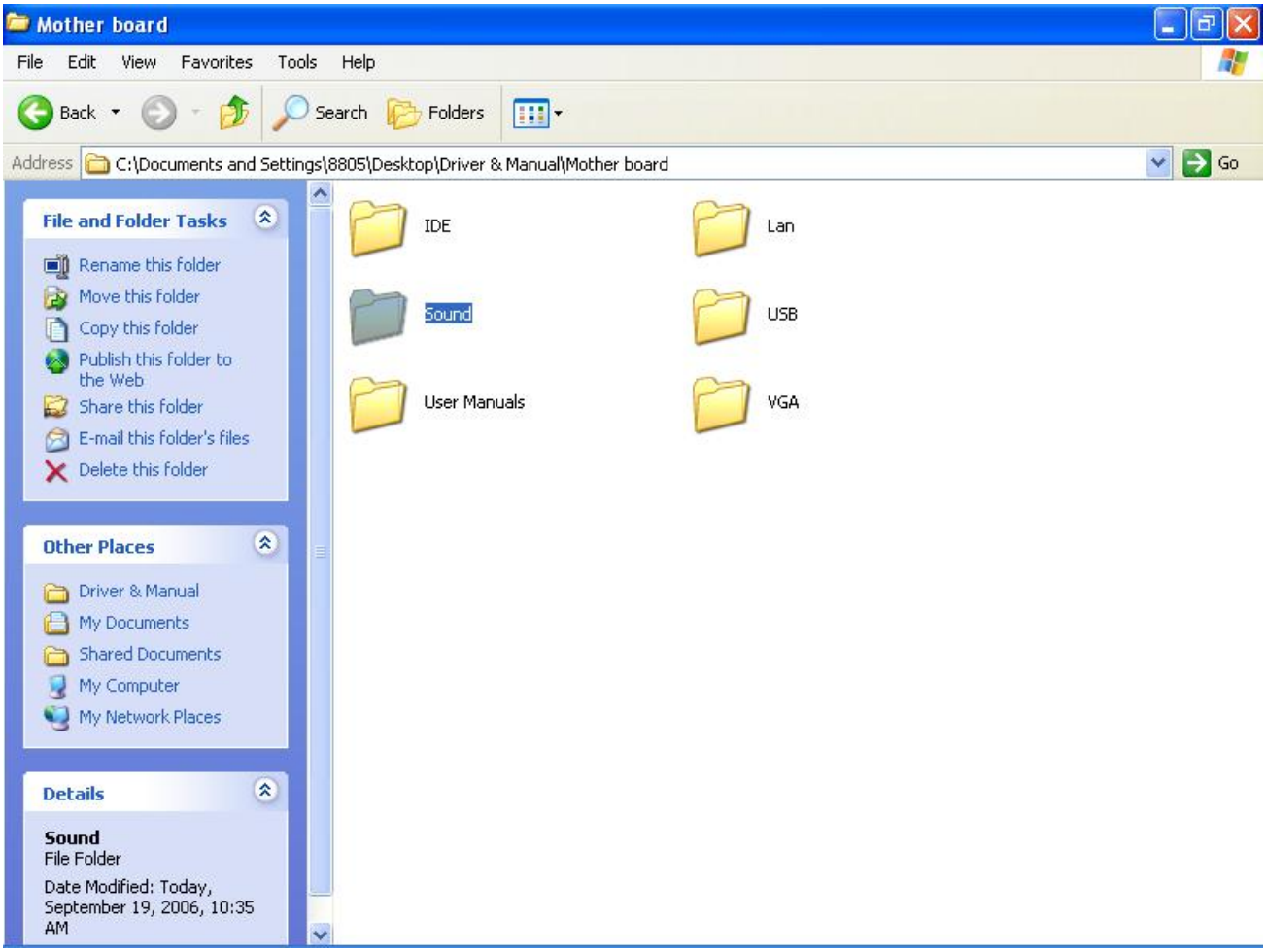
select "YES"



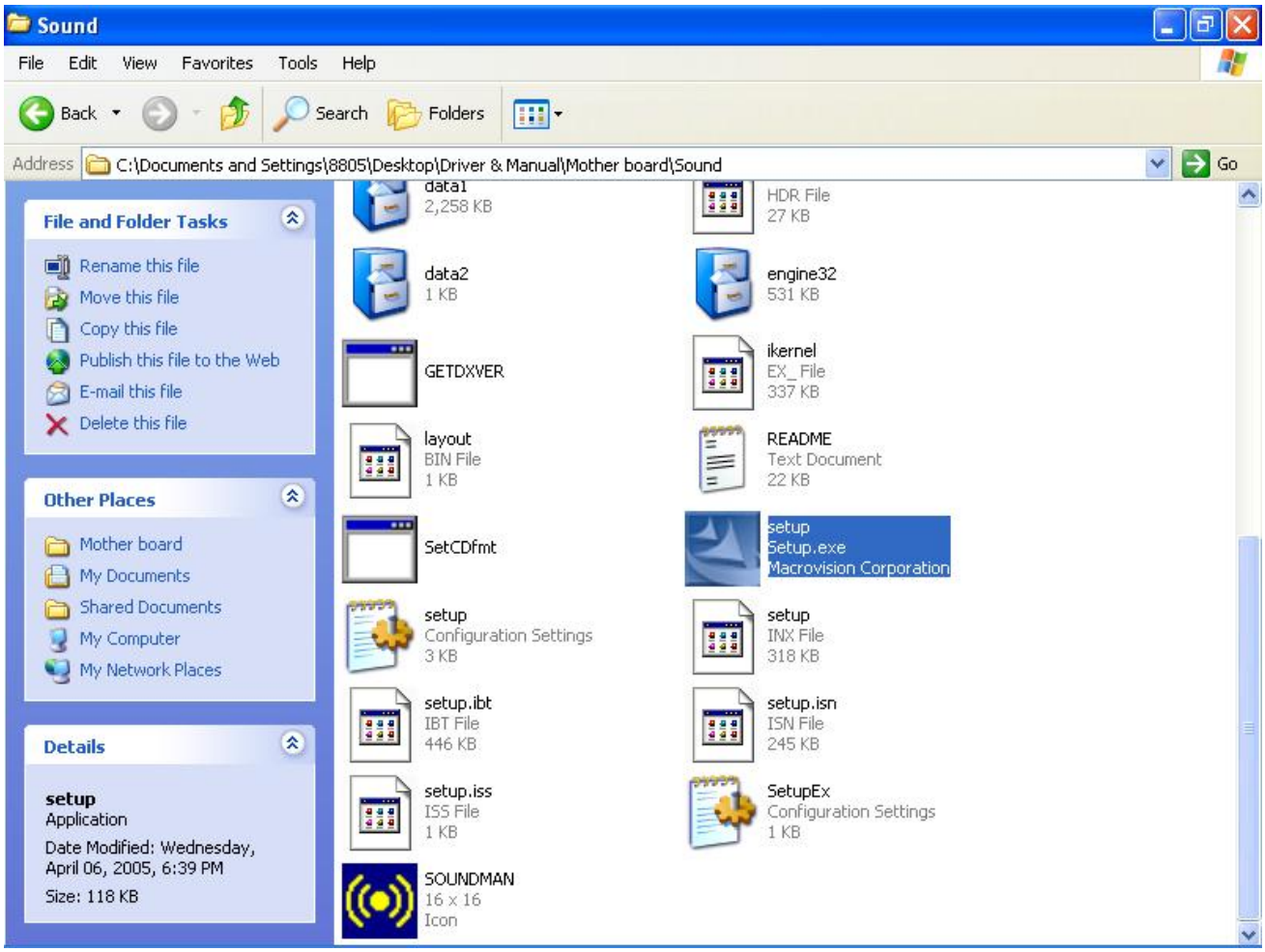
And select IDE folder.



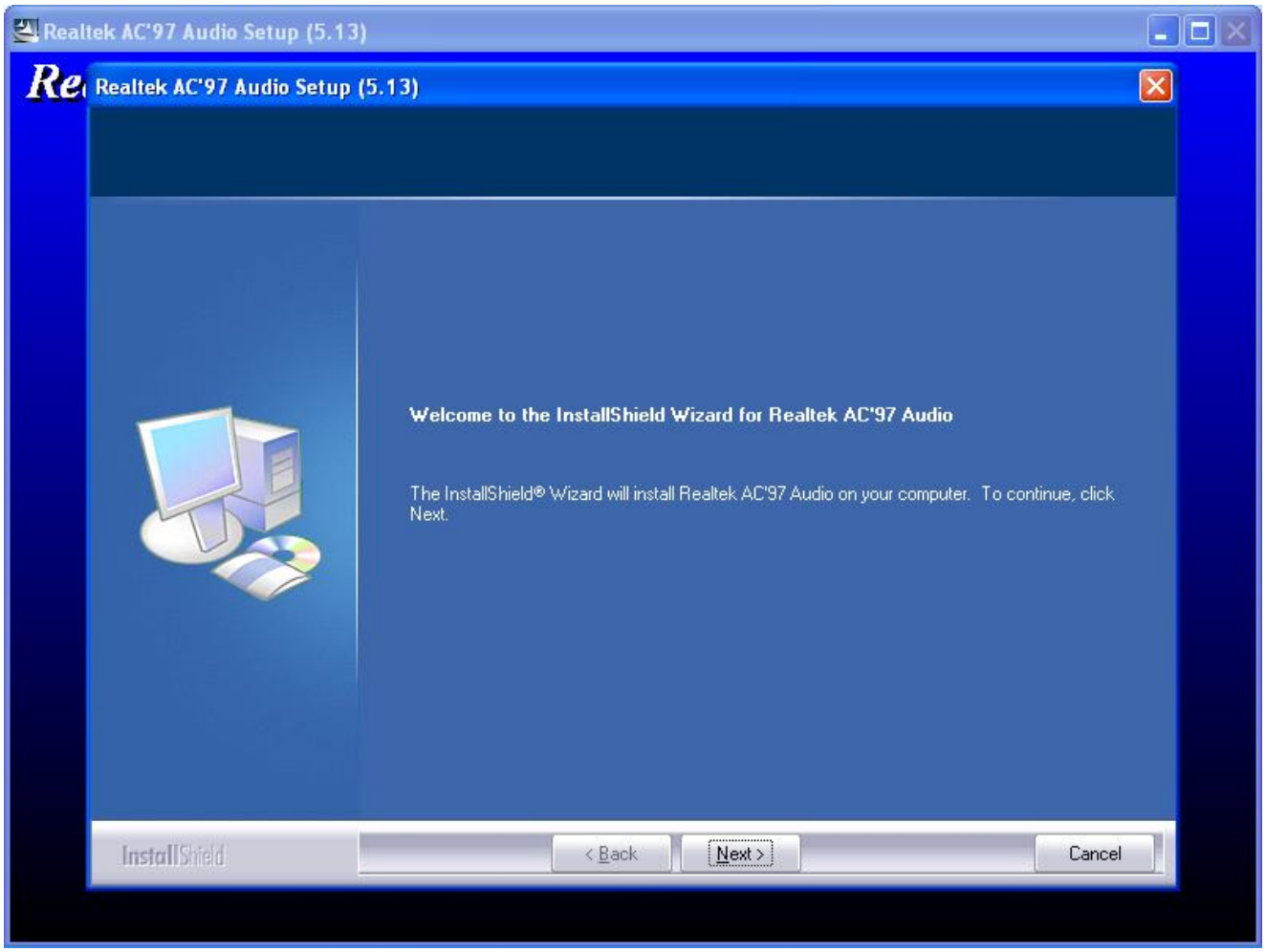
Select the mother board folder.



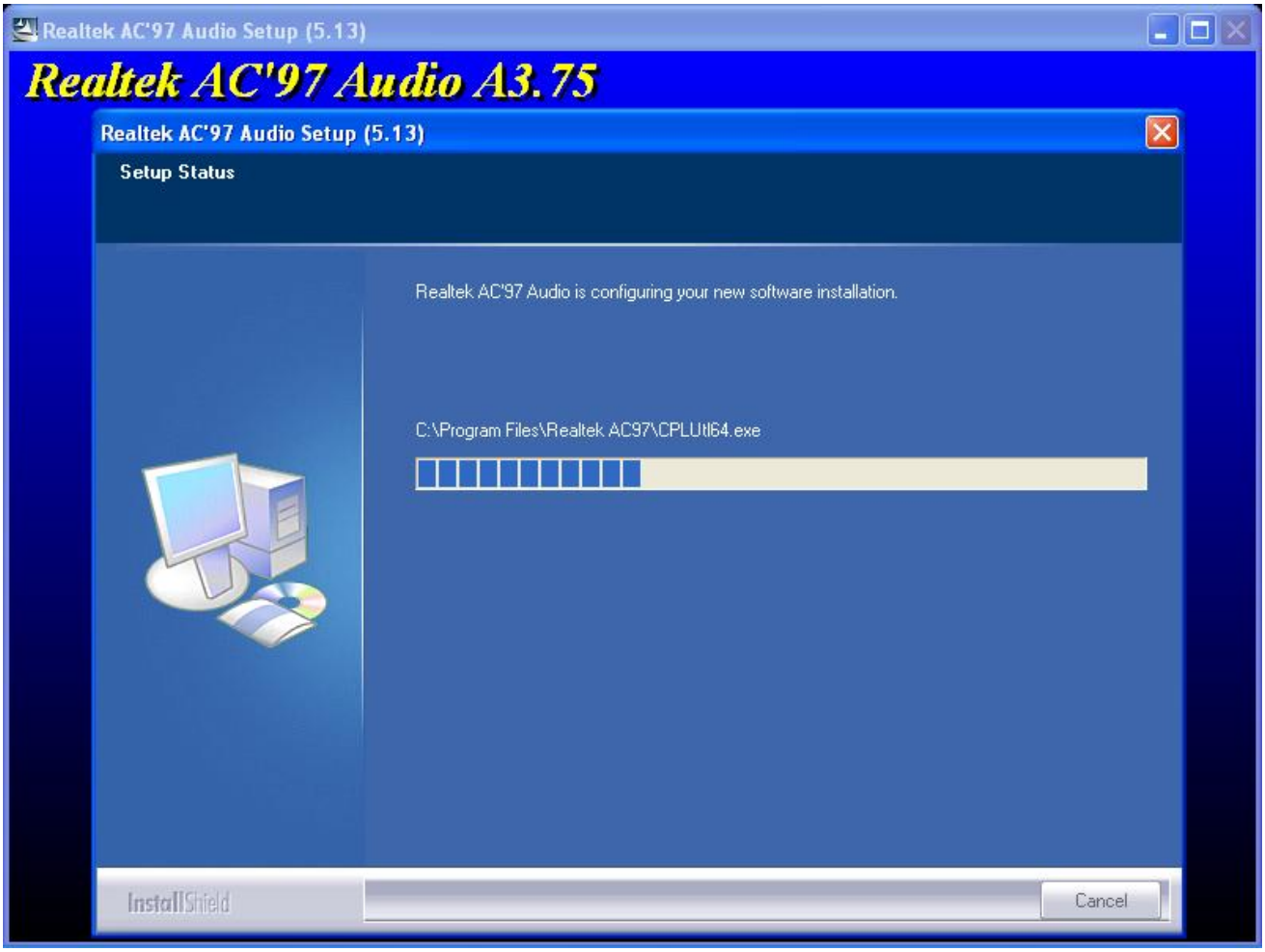
Select SOUND folder.



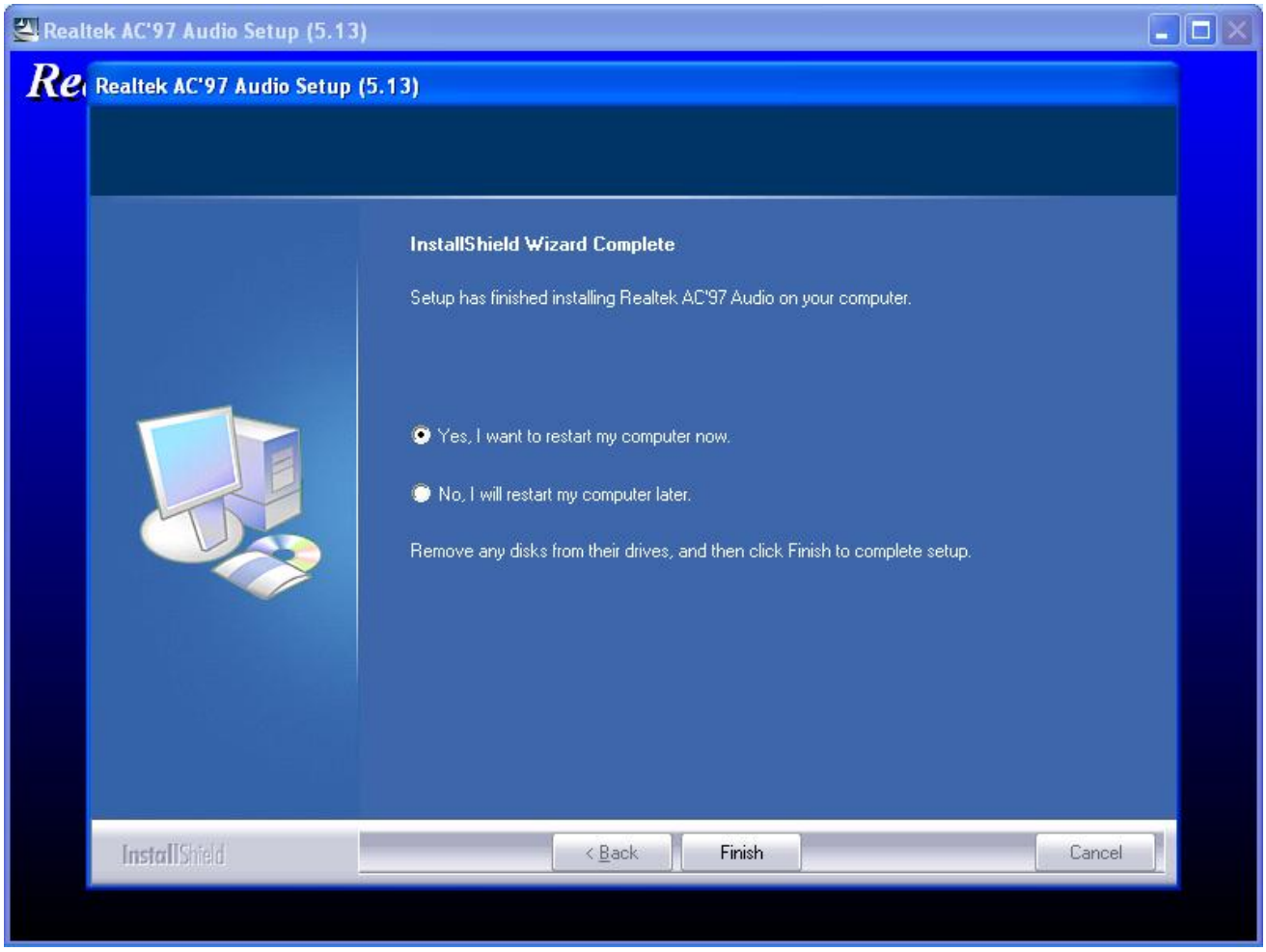
Access the SETUP.


Realtek AC'97 Audio Setup (5.13)
Realtek AC'97 Audio Setup (5.13)
Welcome to the InstallShield Wizard for Realtek AC'97 Audio
The InstallShield® Wizard will install Realtek AC'97 Audio on your computer. To continue, click Next.
InstallShield
< Back
Next >
Cancel

When the setup screen appears click the next step.



Above screen shows the setup process.

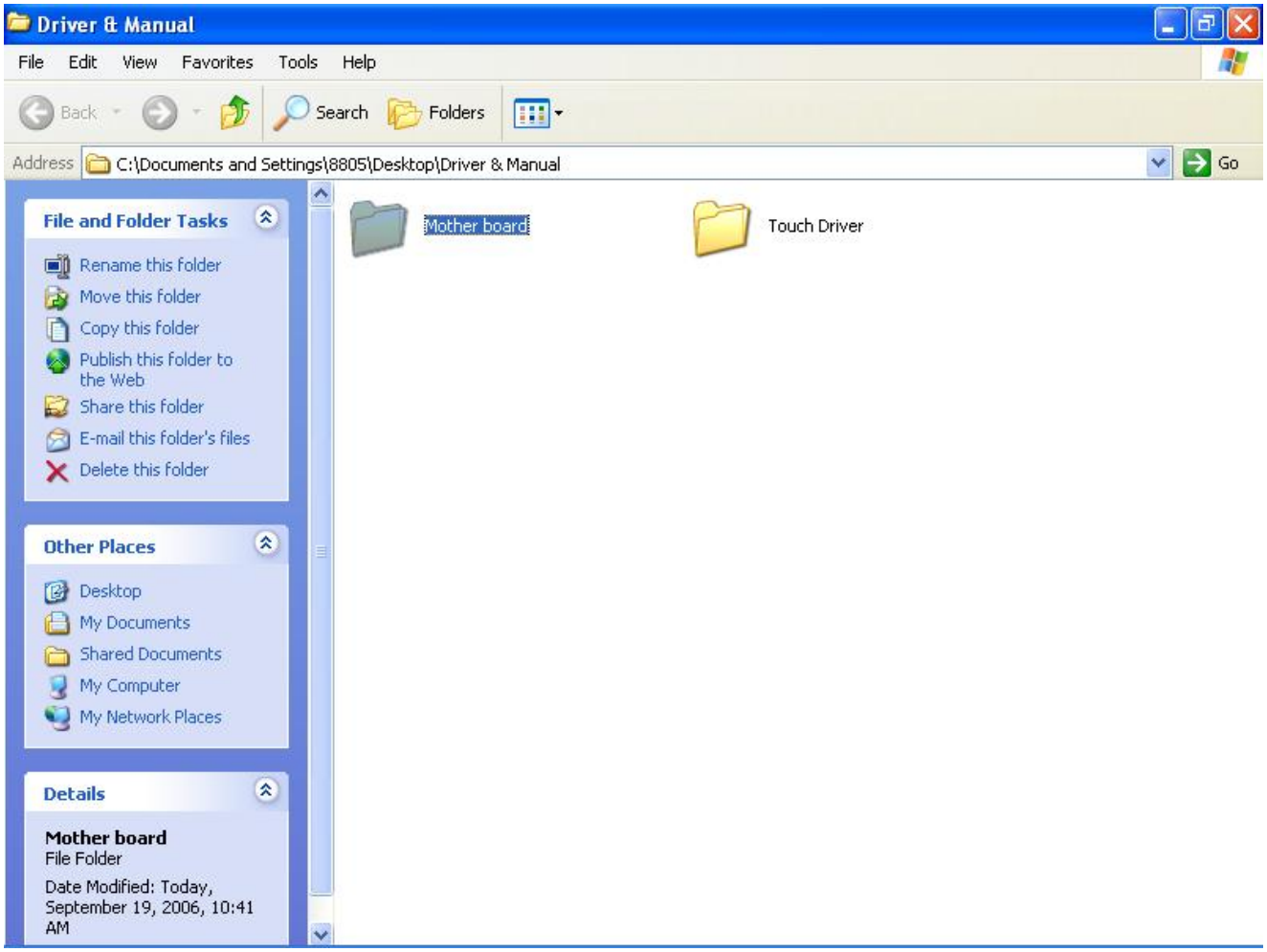

Realtek AC'97 Audio Setup (5.13)
Realtek AC'97 Audio Setup (5.13)
InstallShield Wizard Complete
Setup has finished installing Realtek AC'97 Audio on your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
InstallShield
< Back
Finish
Cancel

After installation

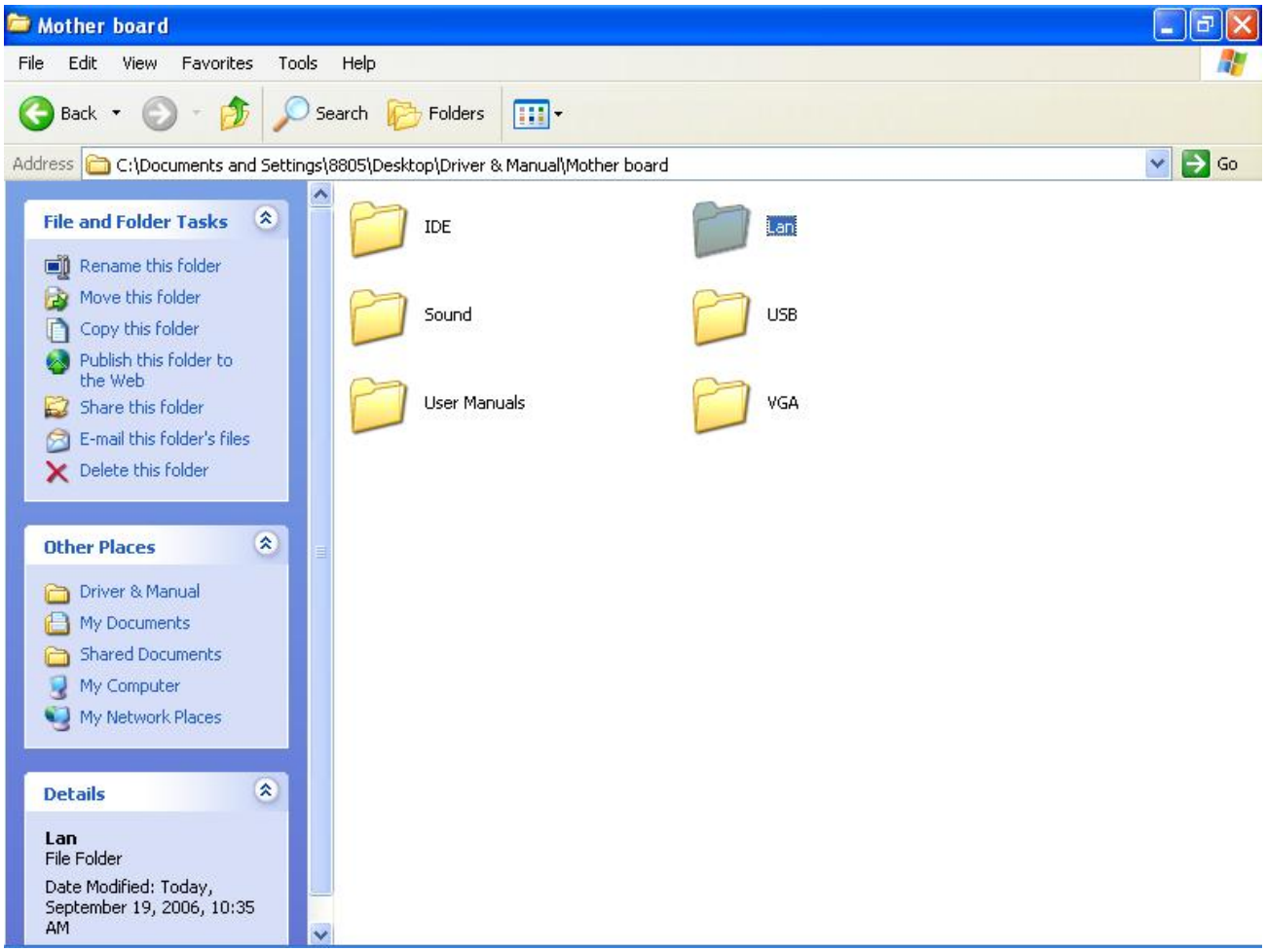
System will require reboot

select "YES"

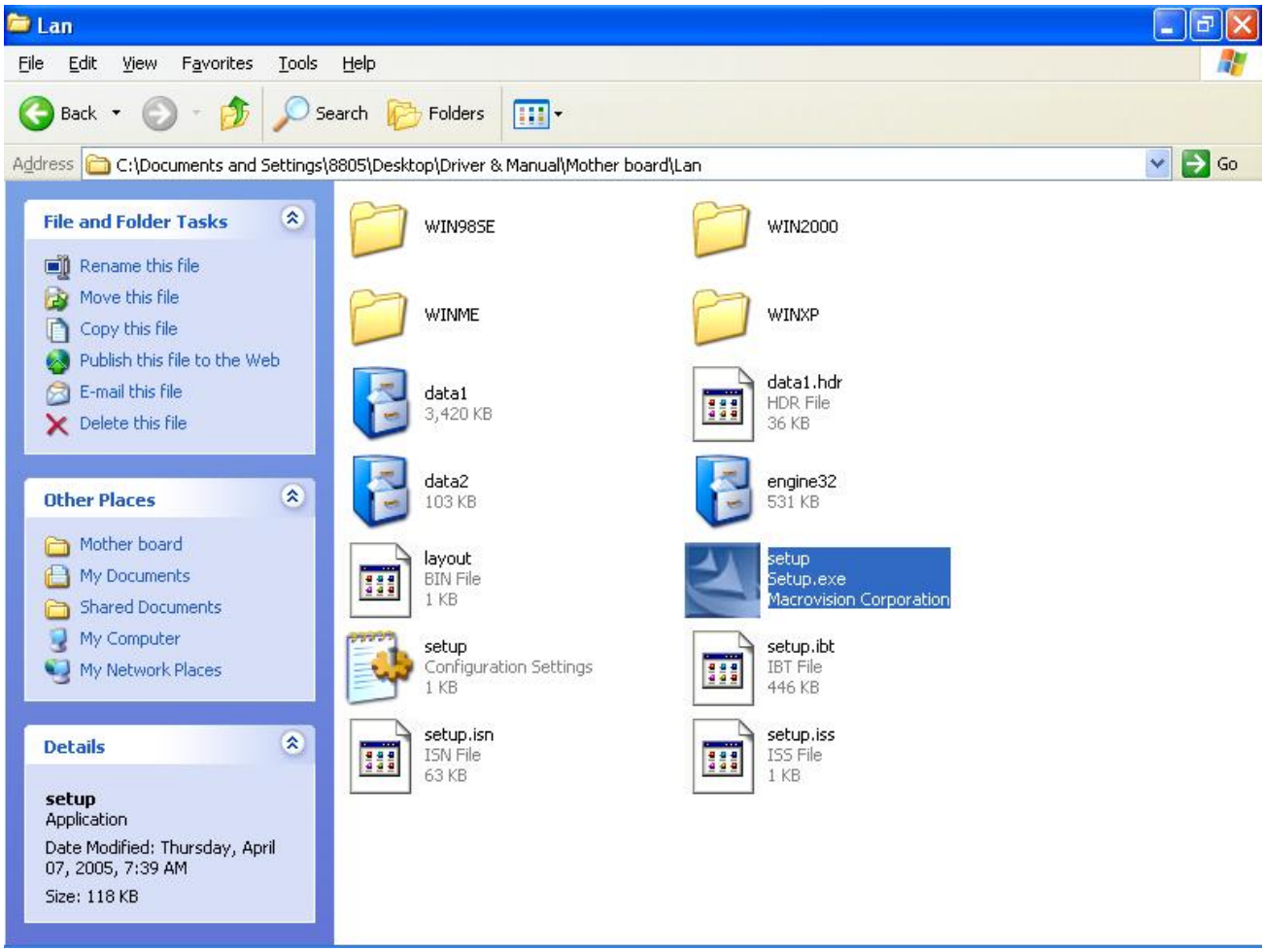
LAN Drivers



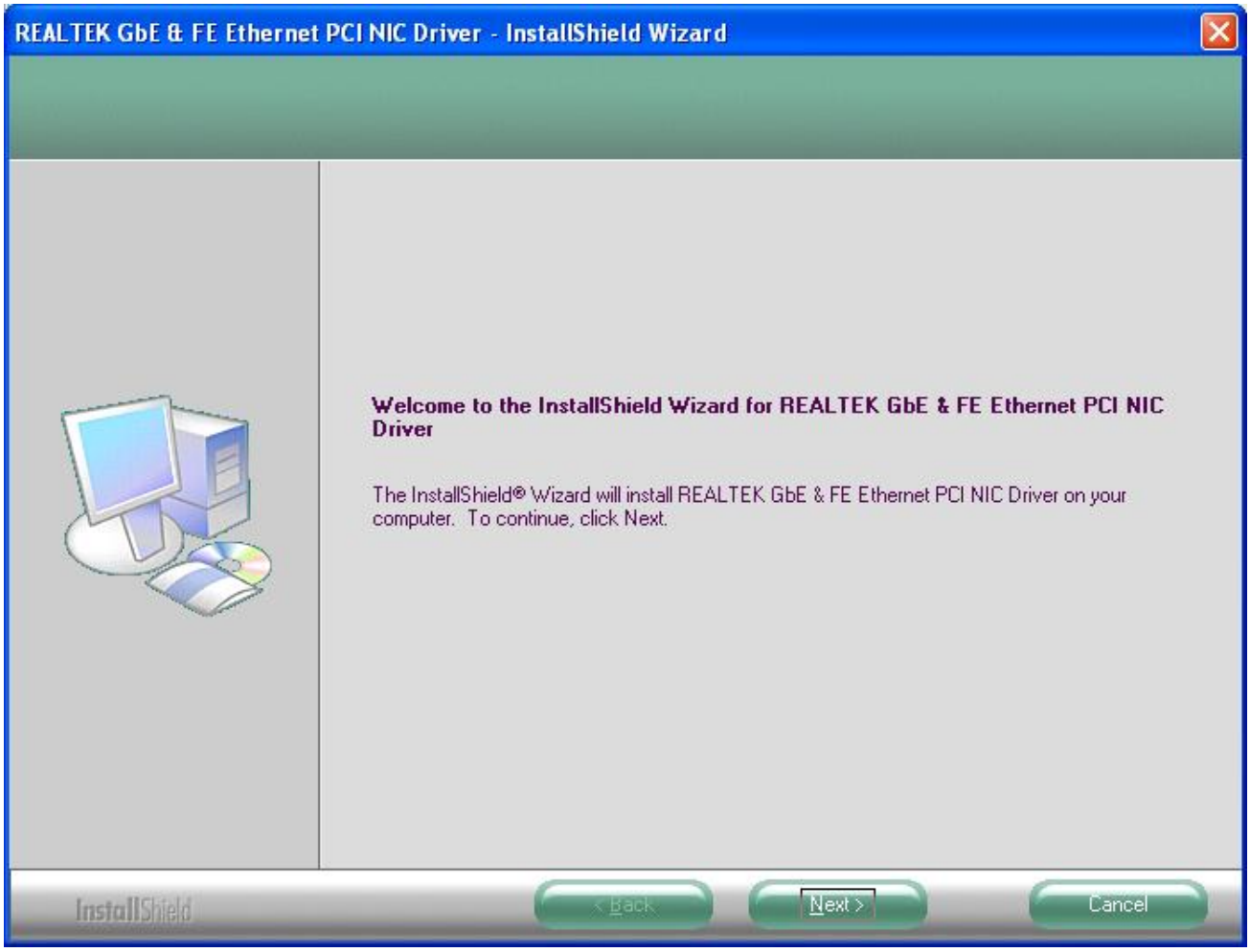
Select mother board folder.



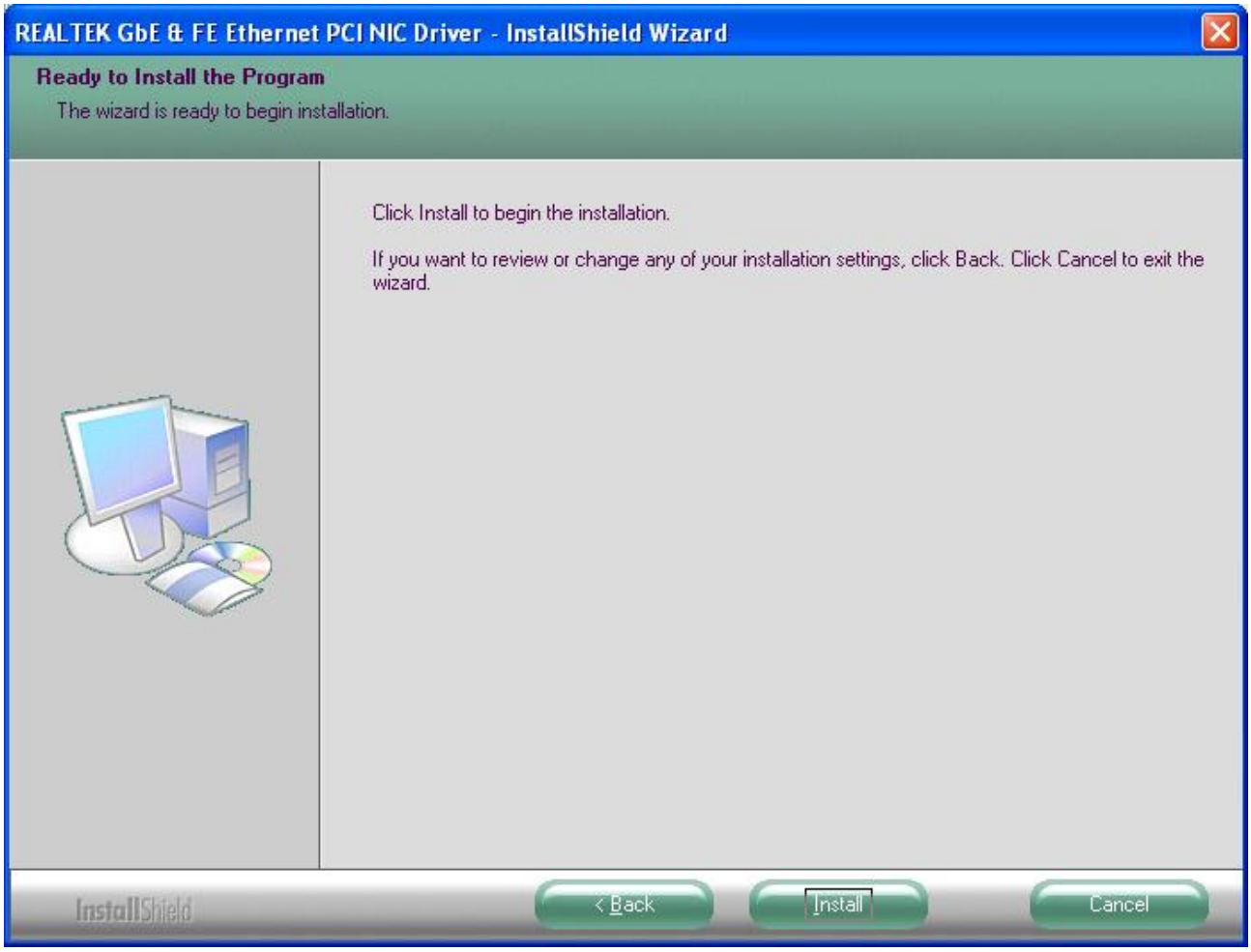
Select LAN folder.



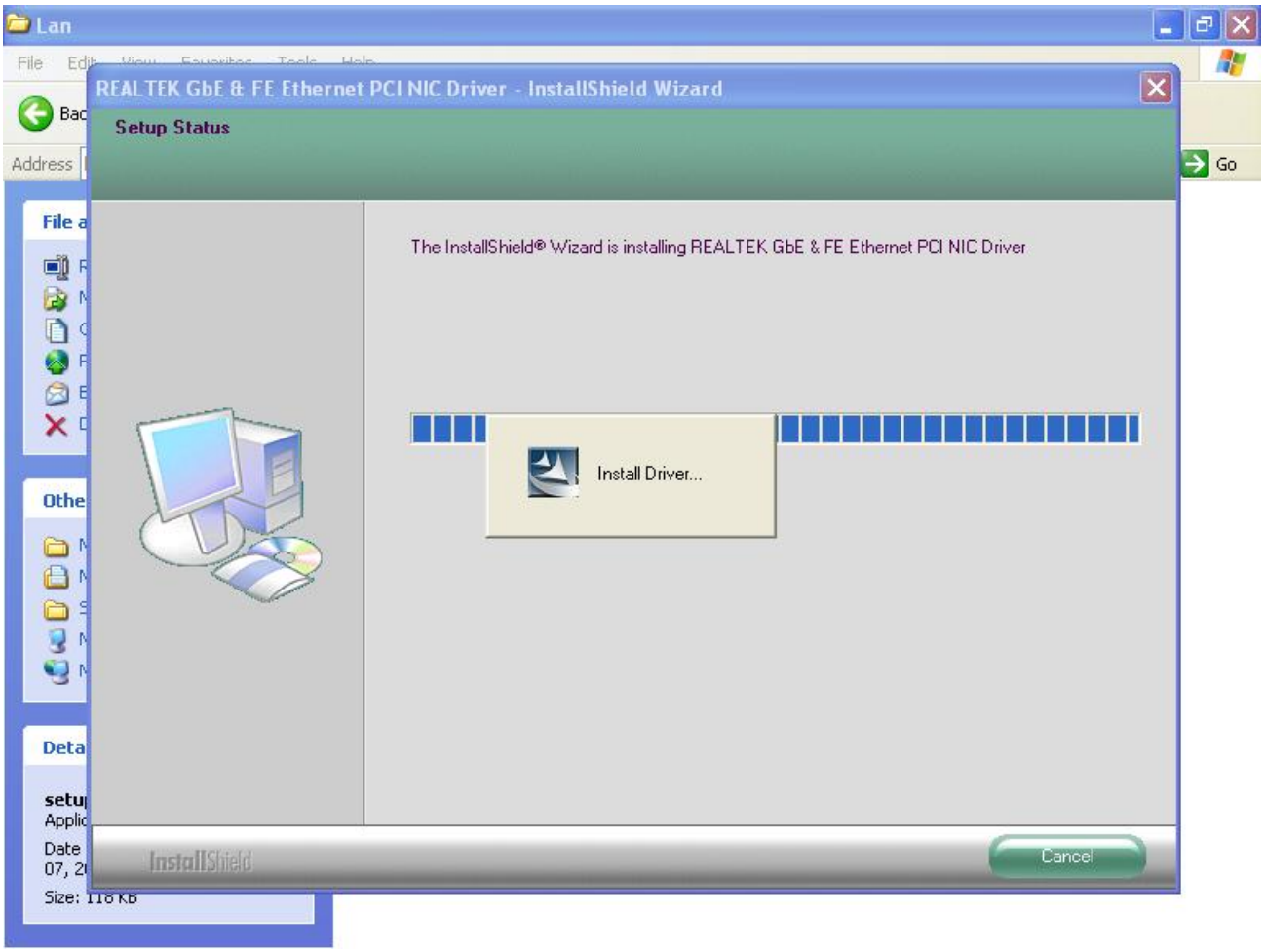
Access the SETUP.


REALTEK GbE & FE Ethernet PCI NIC Driver - InstallShield Wizard
Welcome to the InstallShield Wizard for REALTEK GbE & FE Ethernet PCI NIC Driver
The InstallShield® Wizard will install REALTEK GbE & FE Ethernet PCI NIC Driver on your computer. To continue, click Next.
InstallShield
< Back
Next >
Cancel

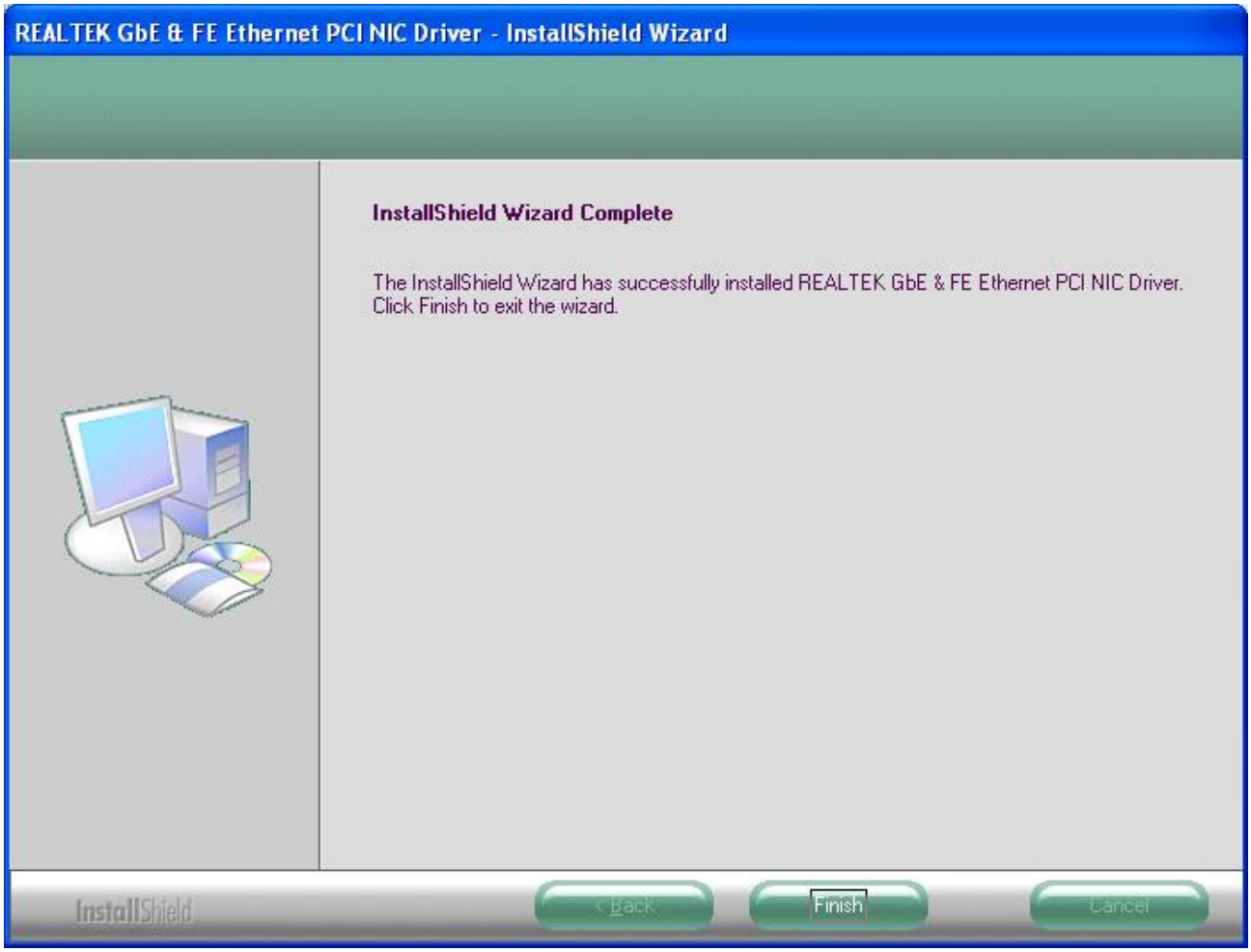
When the setup window appear than to select the next step.


REALTEK GbE & FE Ethernet PCI NIC Driver - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

When the next setup window appears again select the setup to continue the setup process.


Lan
REALTEK GbE & FE Ethernet PCI NIC Driver - InstallShield Wizard
Setup Status
The InstallShield® Wizard is installing REALTEK GbE & FE Ethernet PCI NIC Driver
Install Driver...
InstallShield
Cancel

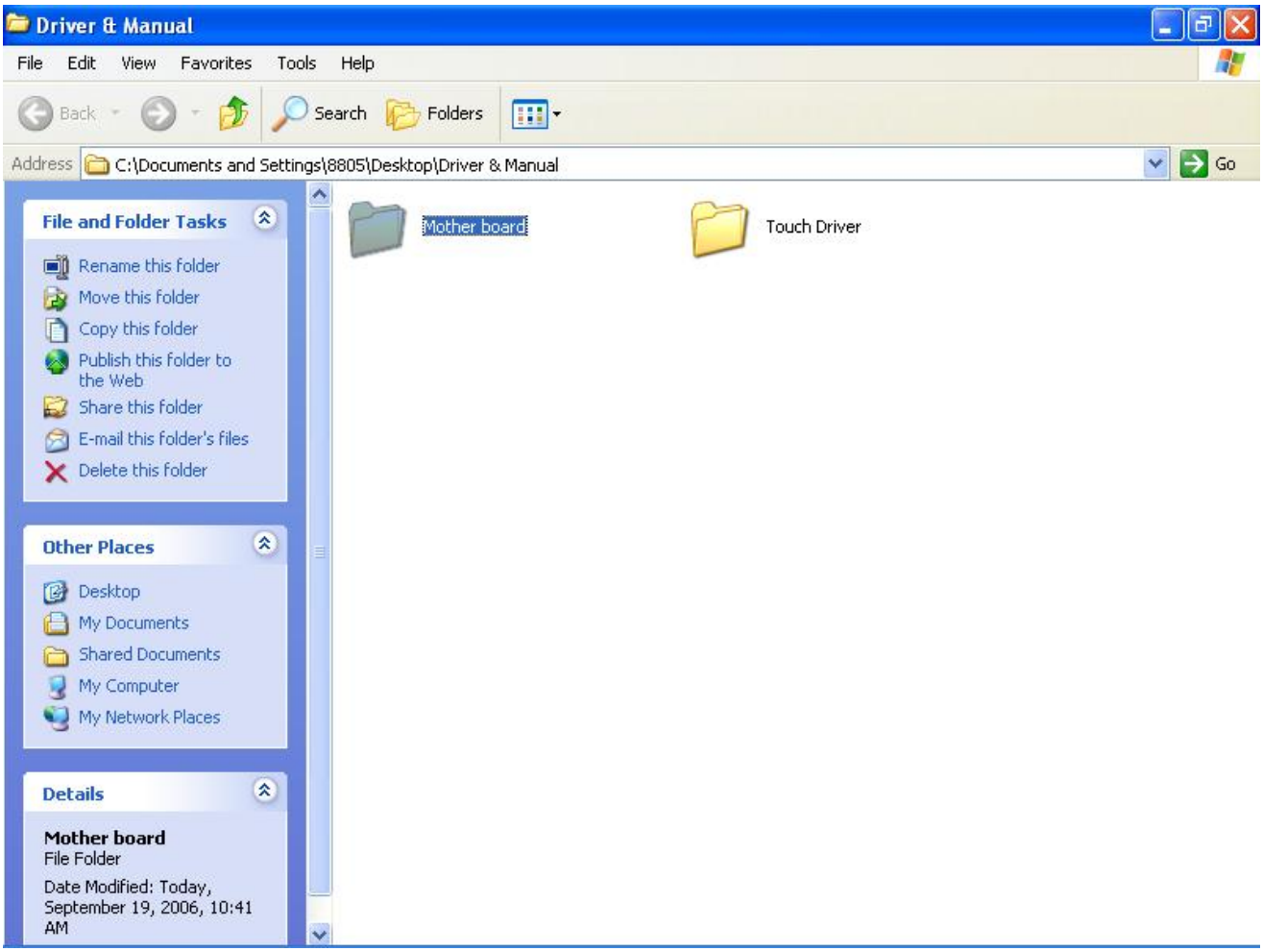
Above screen shows the installation process window.


REALTEK GbE & FE Ethernet PCI NIC Driver - InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed REALTEK GbE & FE Ethernet PCI NIC Driver. Click Finish to exit the wizard.
InstallShield
< Back
Finish
Cancel

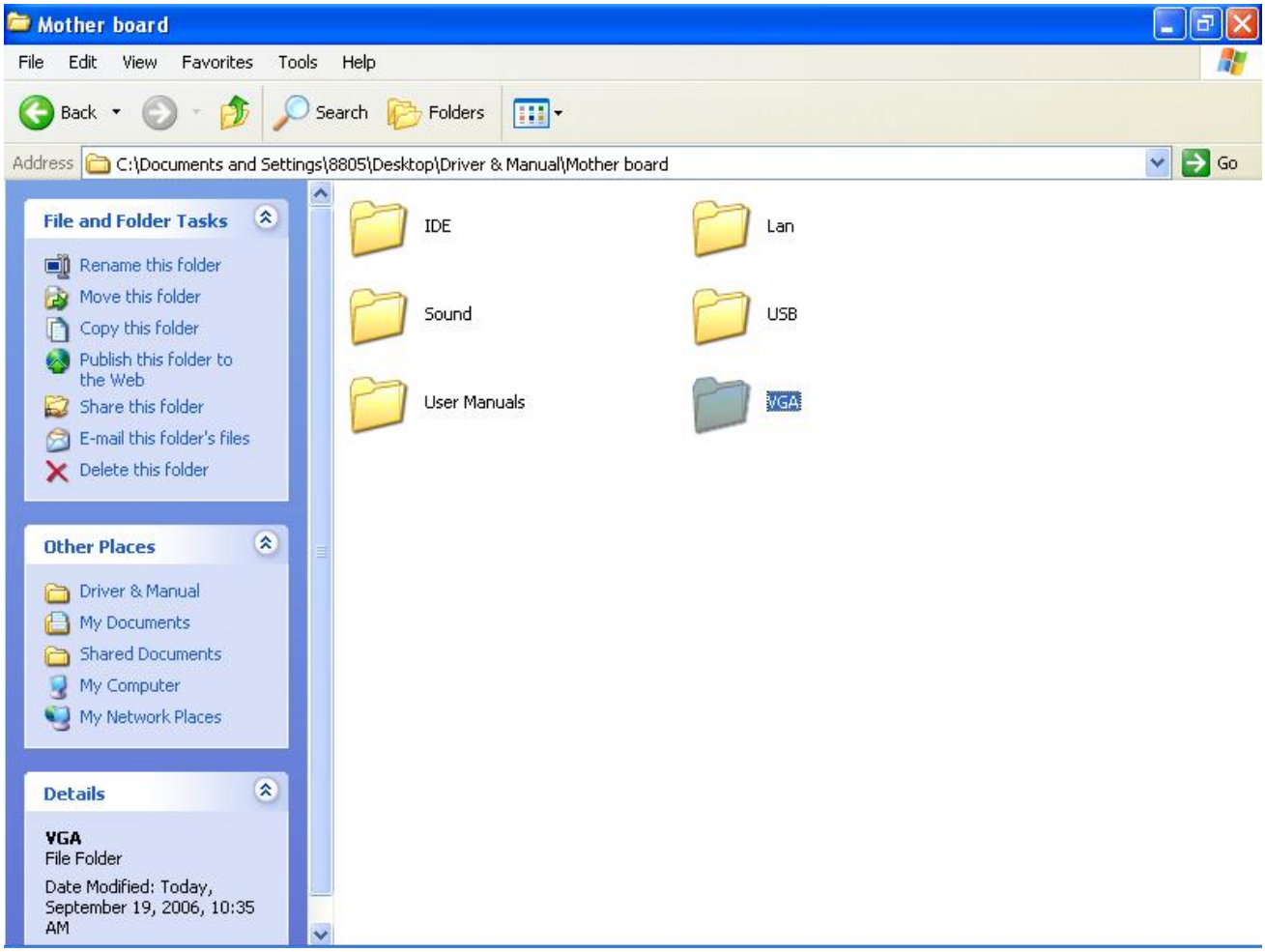
After installation complete select "finish".

VGA Drivers

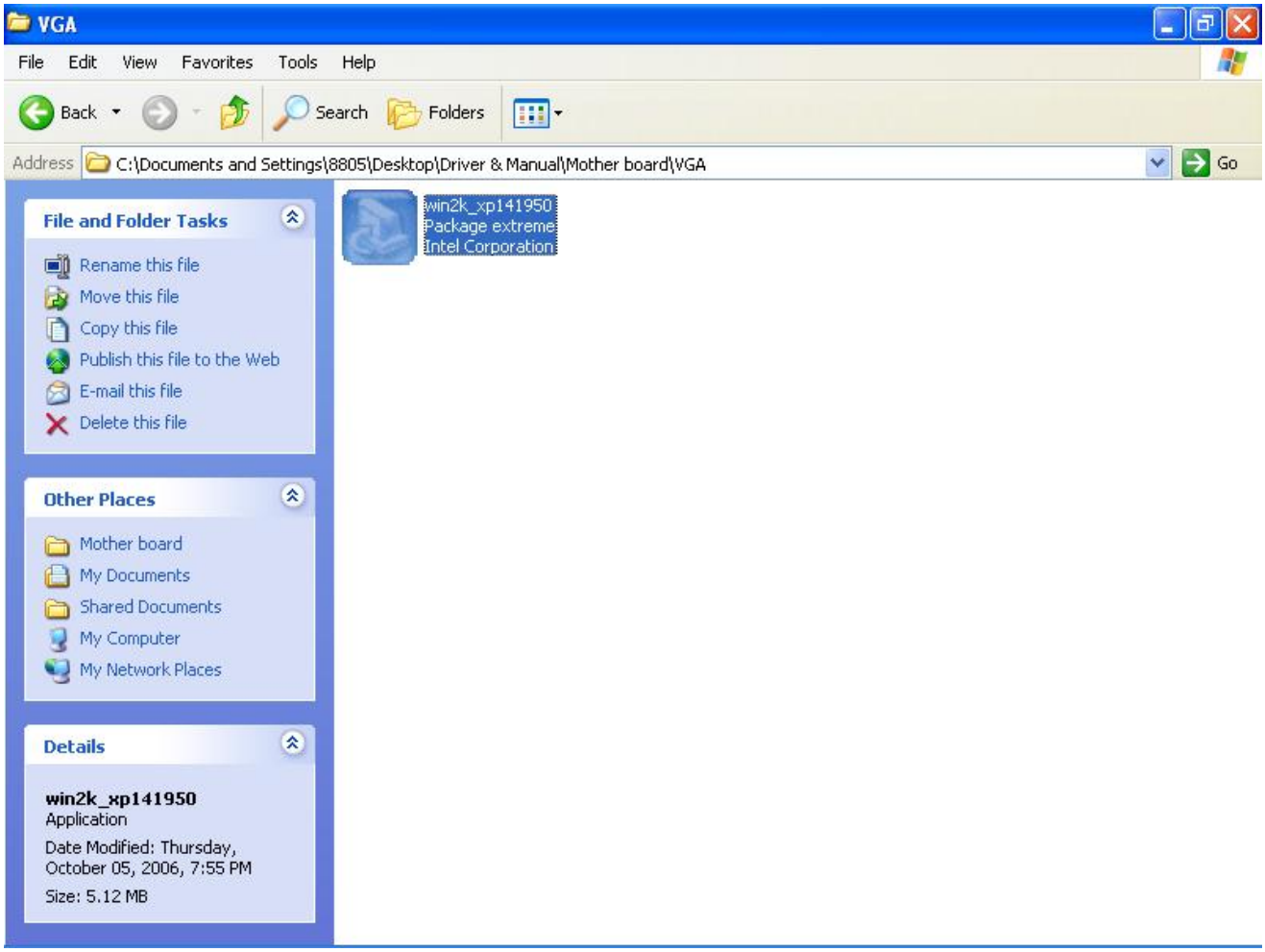
Insert CD Rom and select driver & manuals file folder.



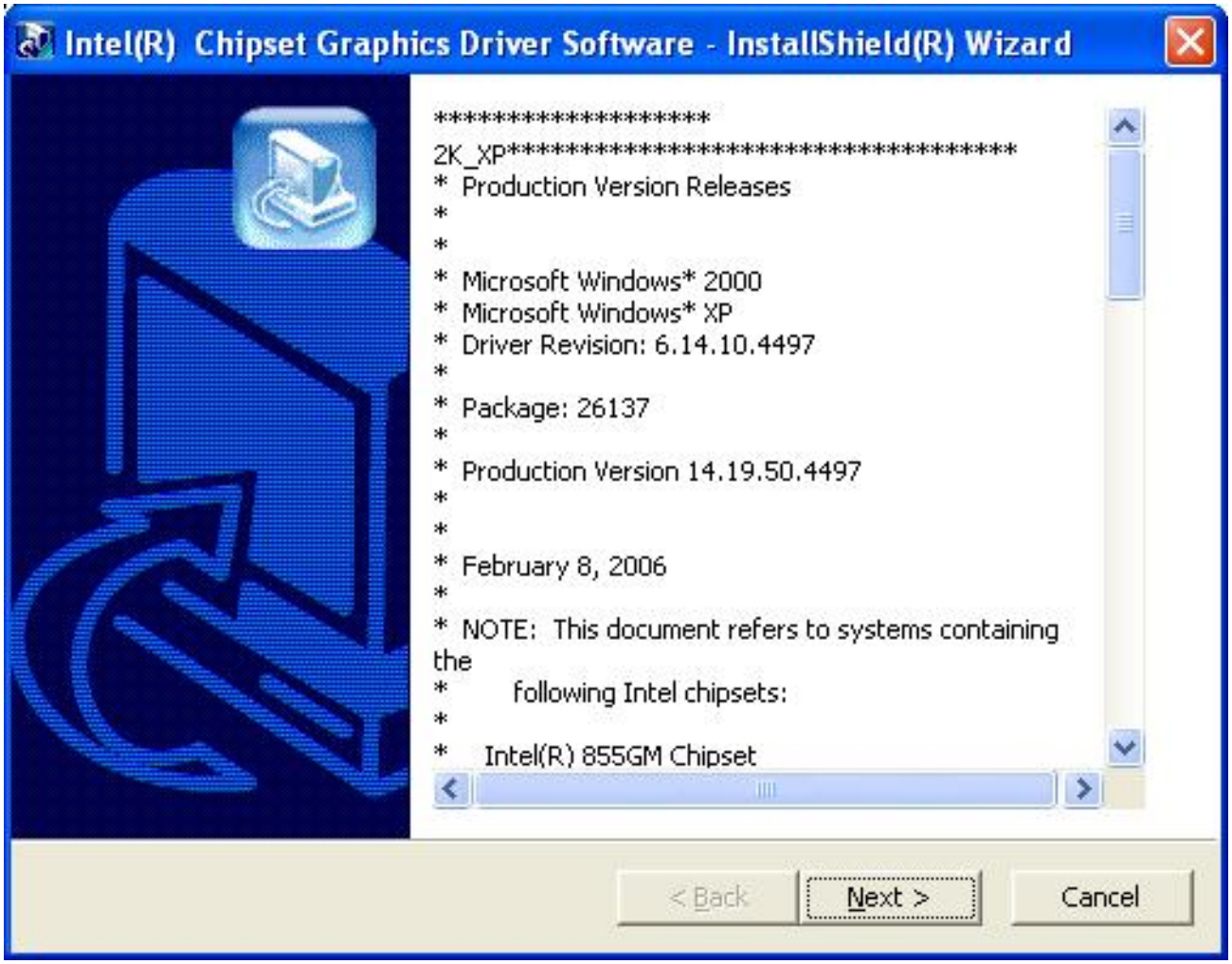
Select mother board folder.



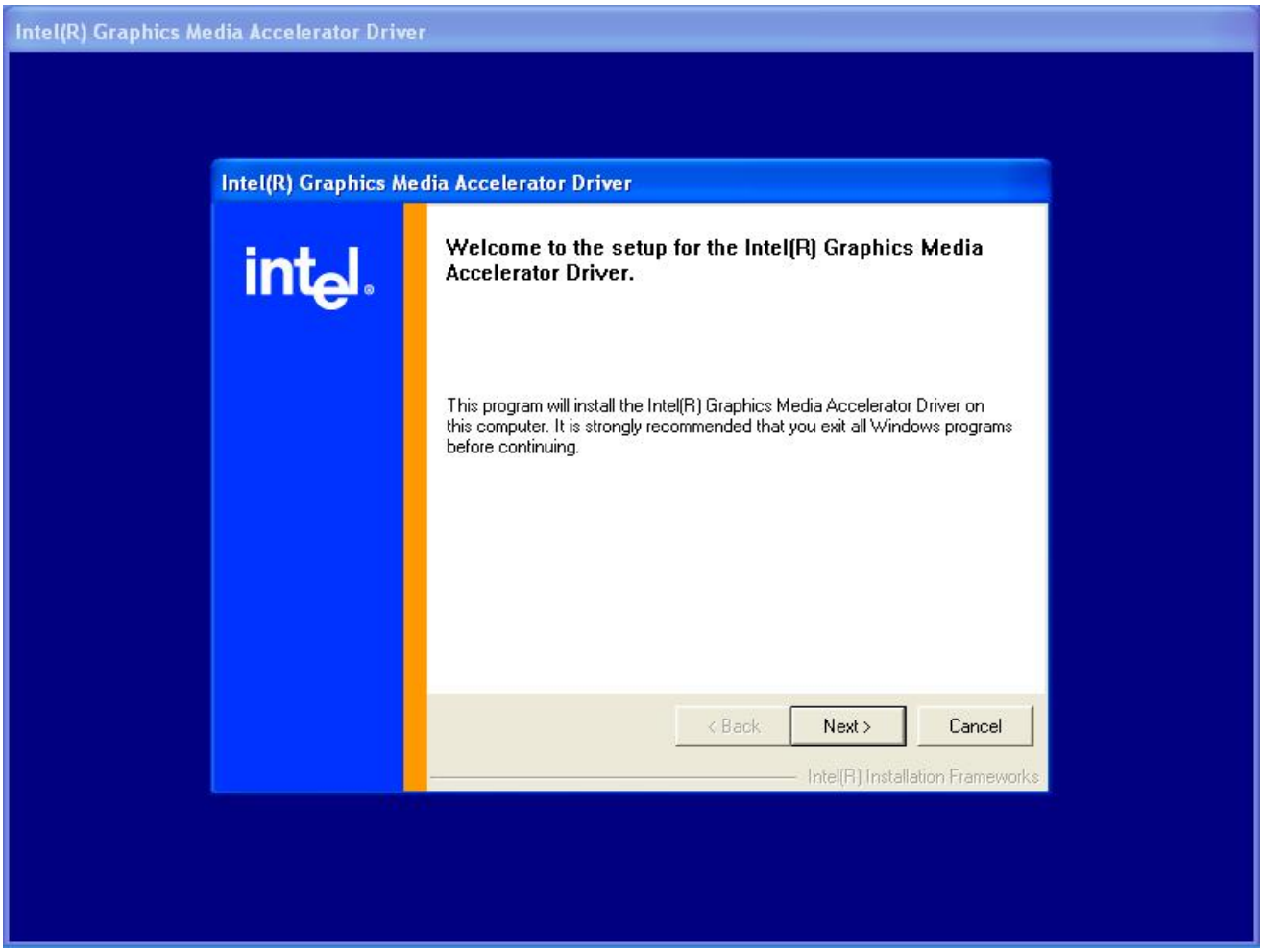
Select VGA folder.



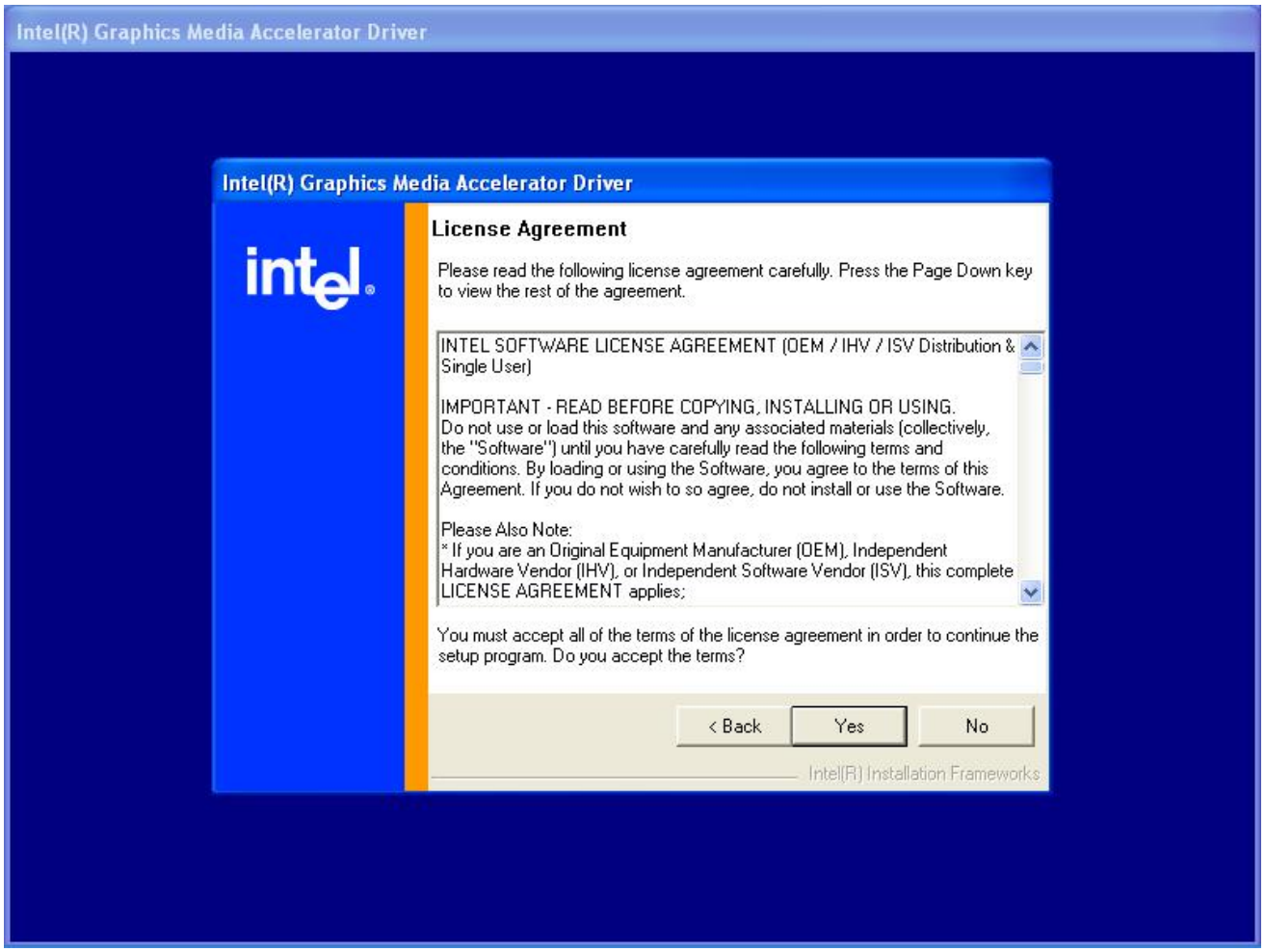
Access win2k_xp141950.exe



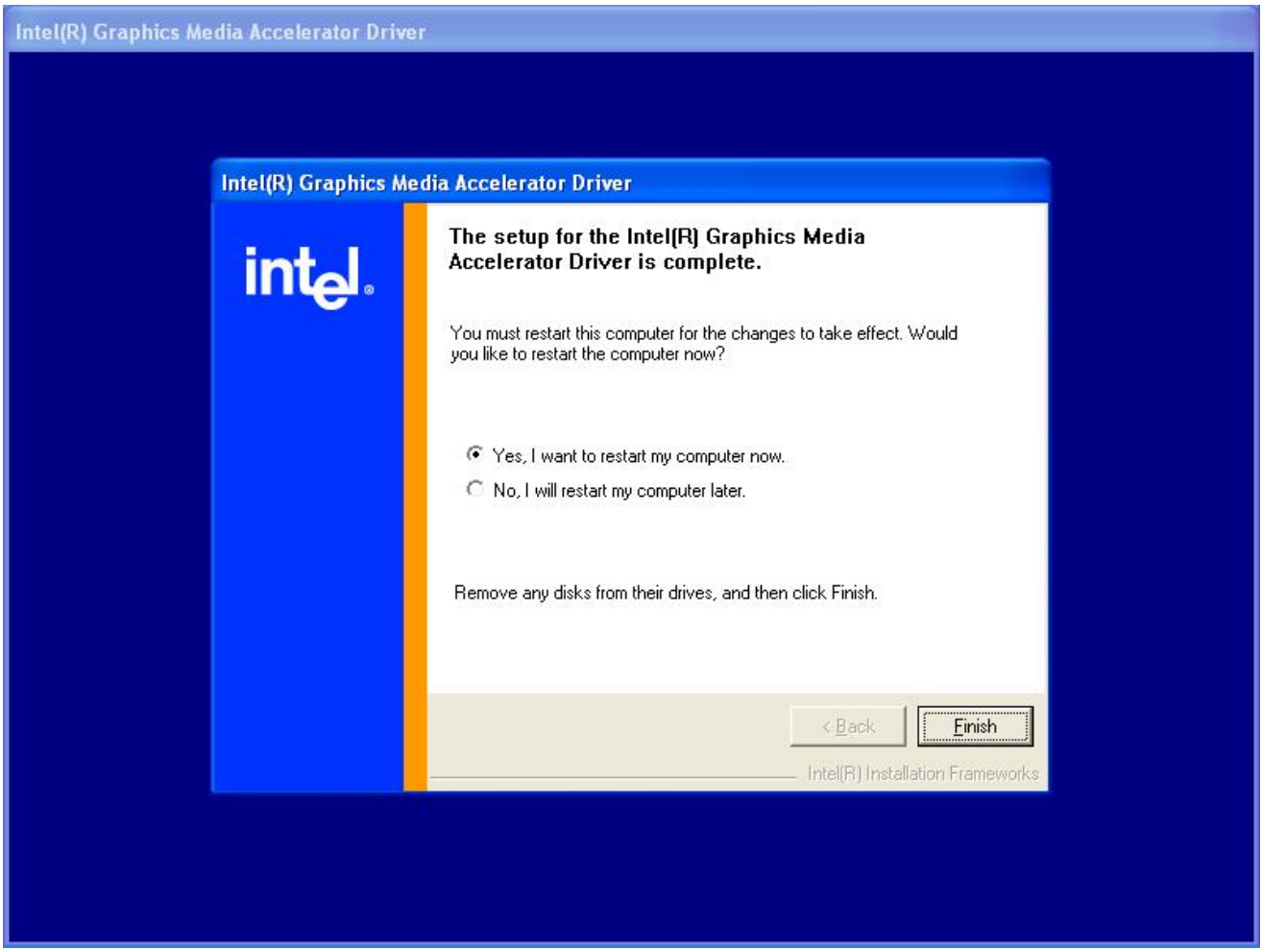
When setup window appear select the next step.


Intel(R) Graphics Media Accelerator Driver
Intel(R) Graphics Media Accelerator Driver
intel
Welcome to the setup for the Intel(R) Graphics Media Accelerator Driver.
This program will install the Intel(R) Graphics Media Accelerator Driver on this computer. It is strongly recommended that you exit all Windows programs before continuing.
< Back
Next >
Cancel
Intel(R) Installation Frameworks

When next setup window appear select the next step to continue setup.


Intel(R) Graphics Media Accelerator Driver
Intel(R) Graphics Media Accelerator Driver
intel
License Agreement
Please read the following license agreement carefully. Press the Page Down key to view the rest of the agreement.
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.
Please Also Note:
* If you are an Original Equipment Manufacturer (OEM), Independent Hardware Vendor (IHV), or Independent Software Vendor (ISV), this complete LICENSE AGREEMENT applies;
You must accept all of the terms of the license agreement in order to continue the setup program. Do you accept the terms?
< Back
Yes
No
Intel(R) Installation Frameworks

When setup window appear select the next step.


Intel(R) Graphics Media Accelerator Driver
Intel(R) Graphics Media Accelerator Driver
intel
The setup for the Intel(R) Graphics Media Accelerator Driver is complete.
You must restart this computer for the changes to take effect. Would you like to restart the computer now?
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish.
< Back
Finish
Intel(R) Installation Frameworks

After installation

System will require reboot

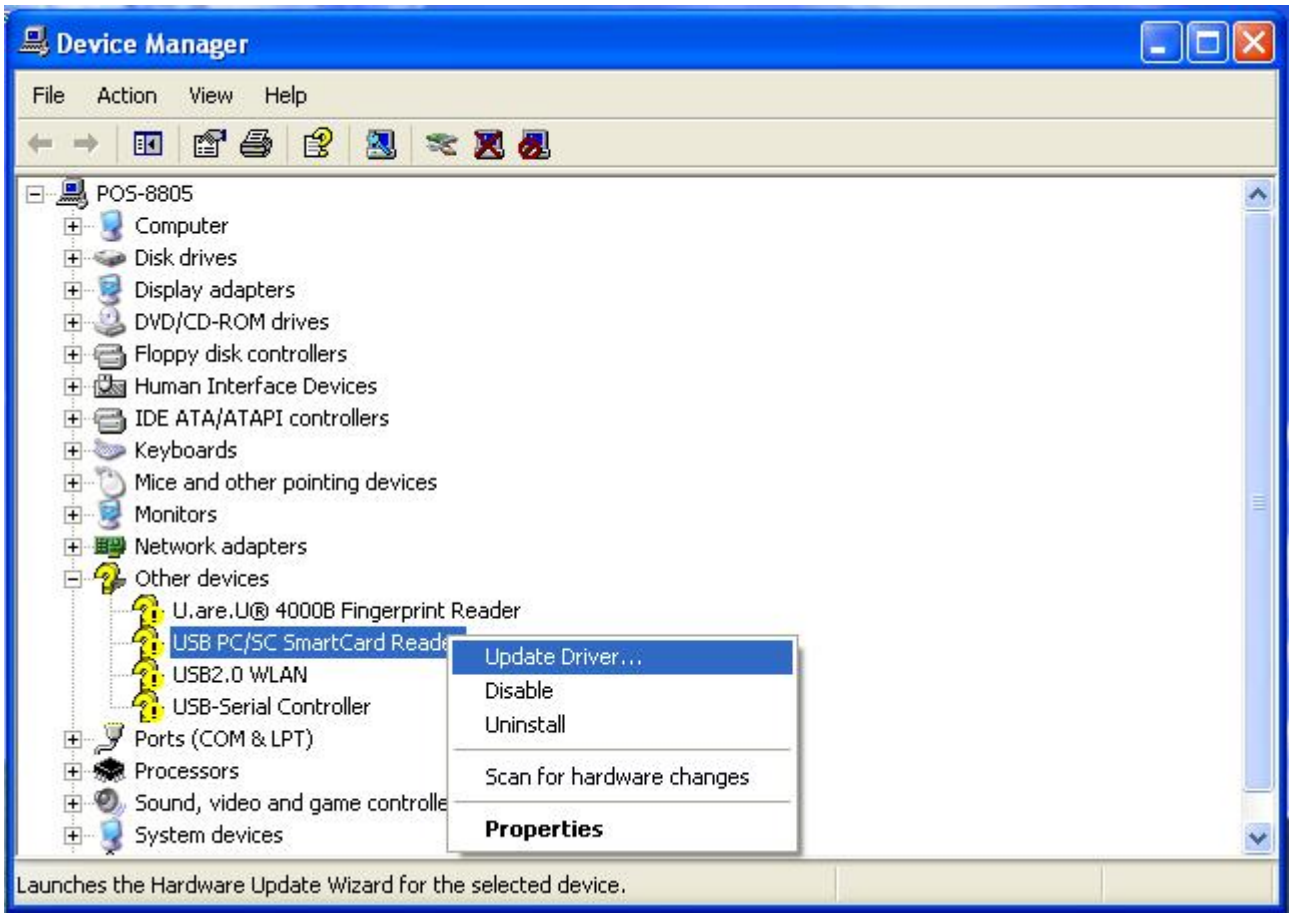
select "YES"

SmartCard Reader Driver

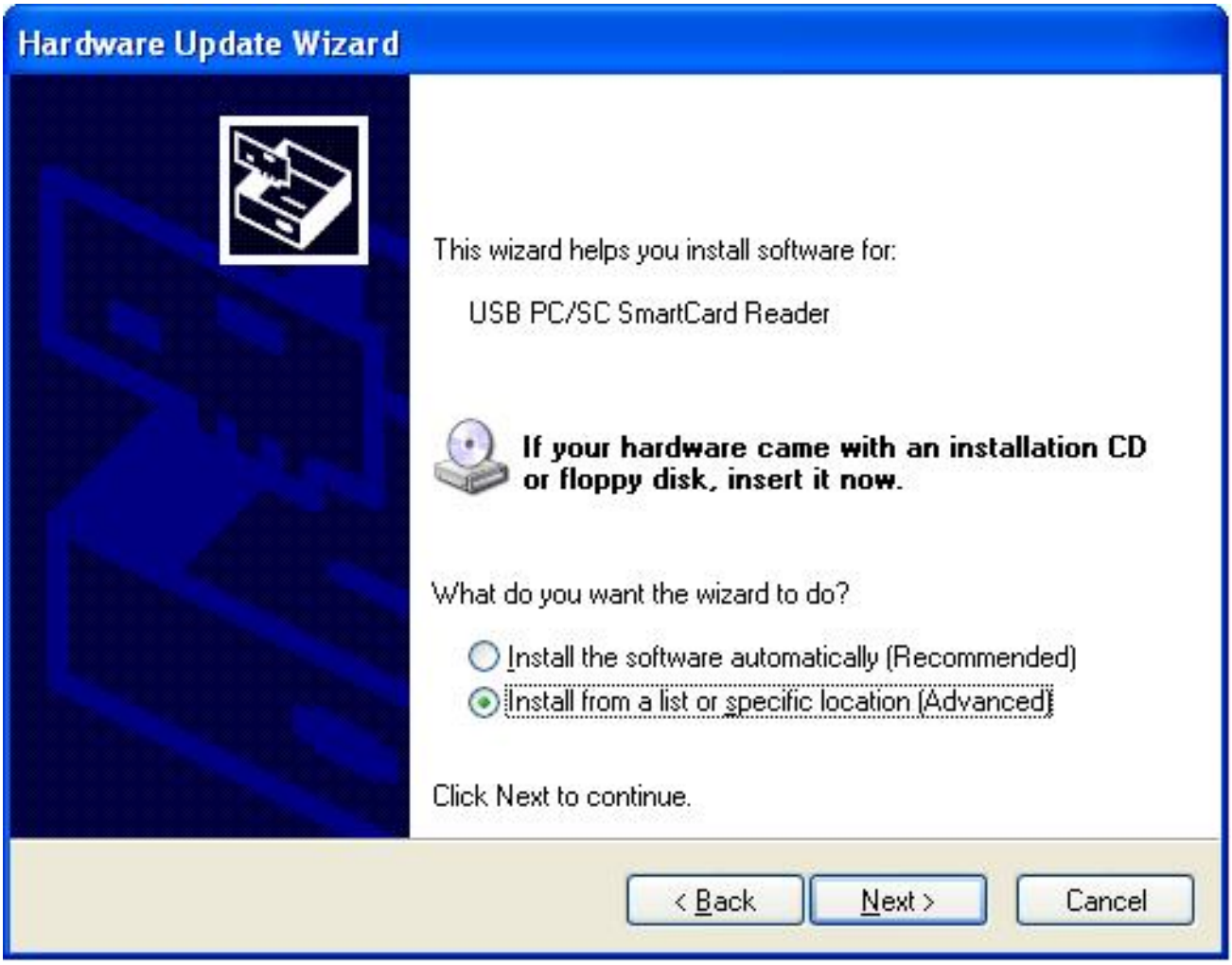
Right click "My Computer" and select the Properties.

System Properties
System Restore
Automatic Updates
Remote
General
Computer Name
Hardware
Advanced
Device Manager
The Device Manager lists all the hardware devices installed on your computer. Use the Device Manager to change the properties of any device.
Device Manager
Drivers
Driver Signing lets you make sure that installed drivers are compatible with Windows. Windows Update lets you set up how Windows connects to Windows Update for drivers.
Driver Signing
Windows Update
Hardware Profiles
Hardware profiles provide a way for you to set up and store different hardware configurations.
Hardware Profiles
OK
Cancel
Apply

Select "Device Manager".

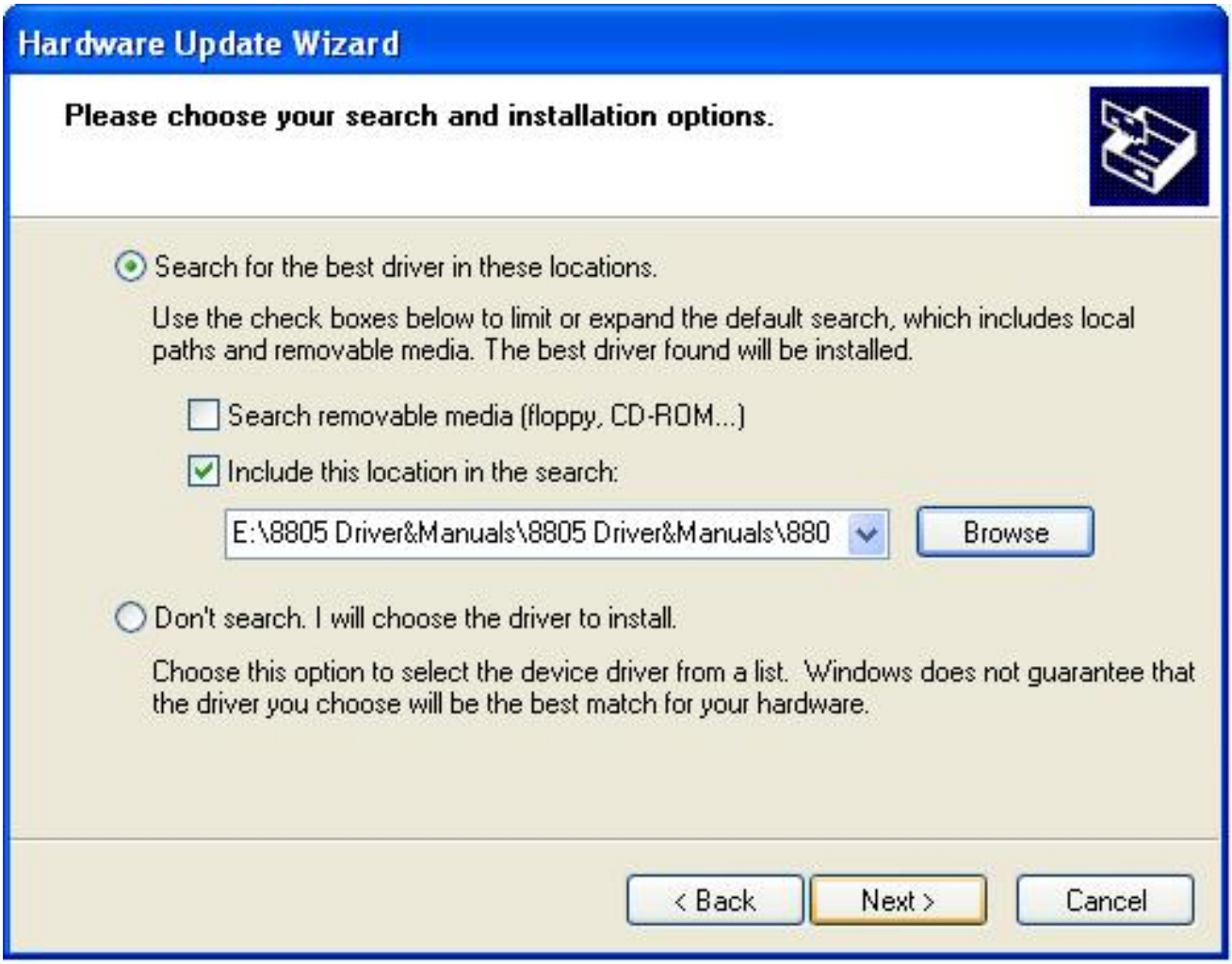


Select "USB PC/SC SmartCard Reader" and right click to choose "Update Driver.."


Hardware Update Wizard
This wizard helps you install software for:
USB PC/SC SmartCard Reader
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

When the setup screen appears than to select "Advanced" & "Next" step.

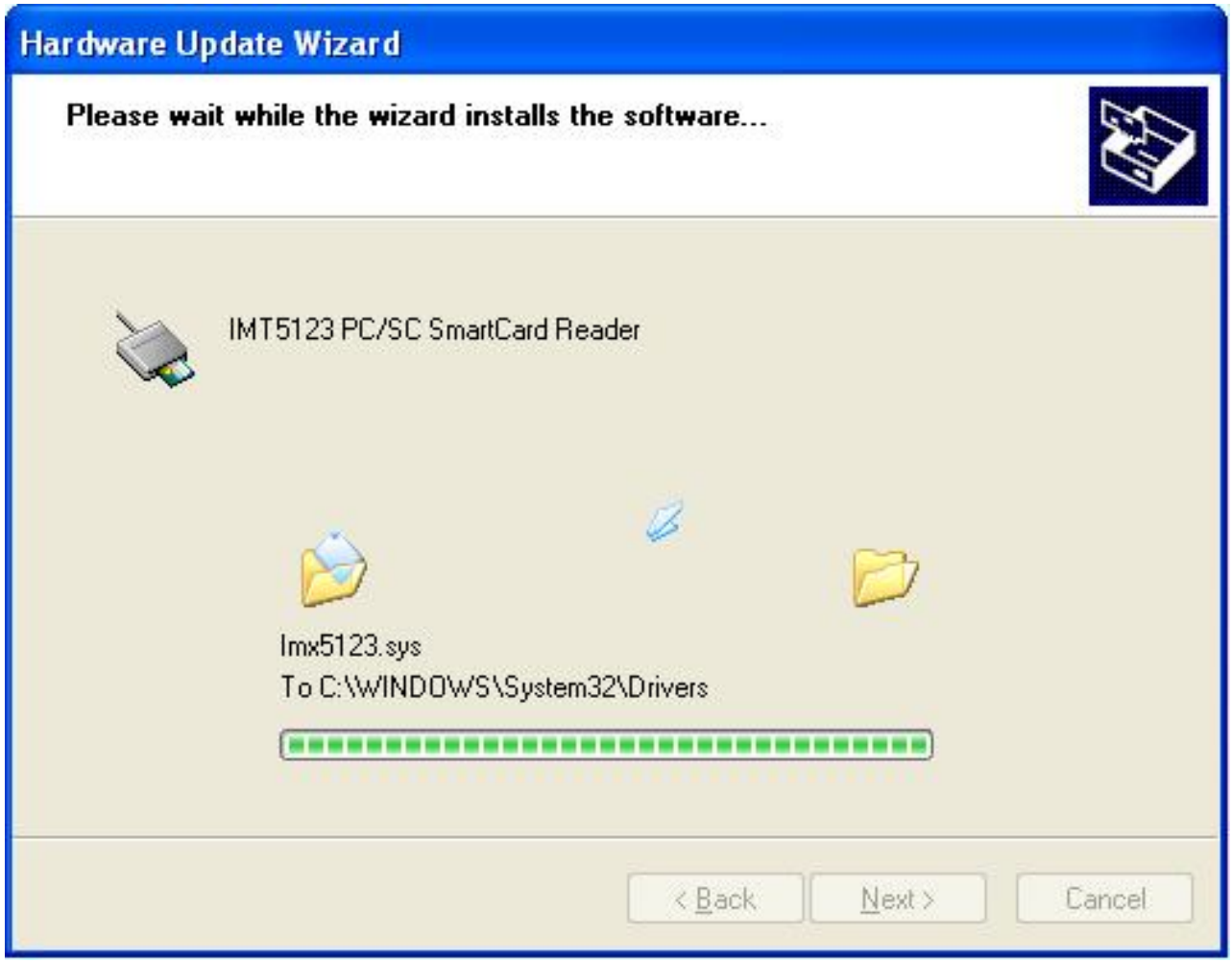
Select "Smartcard USB Driver" folder.


Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
E:\8805 Driver&Manuals\8805 Driver&Manuals\880
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

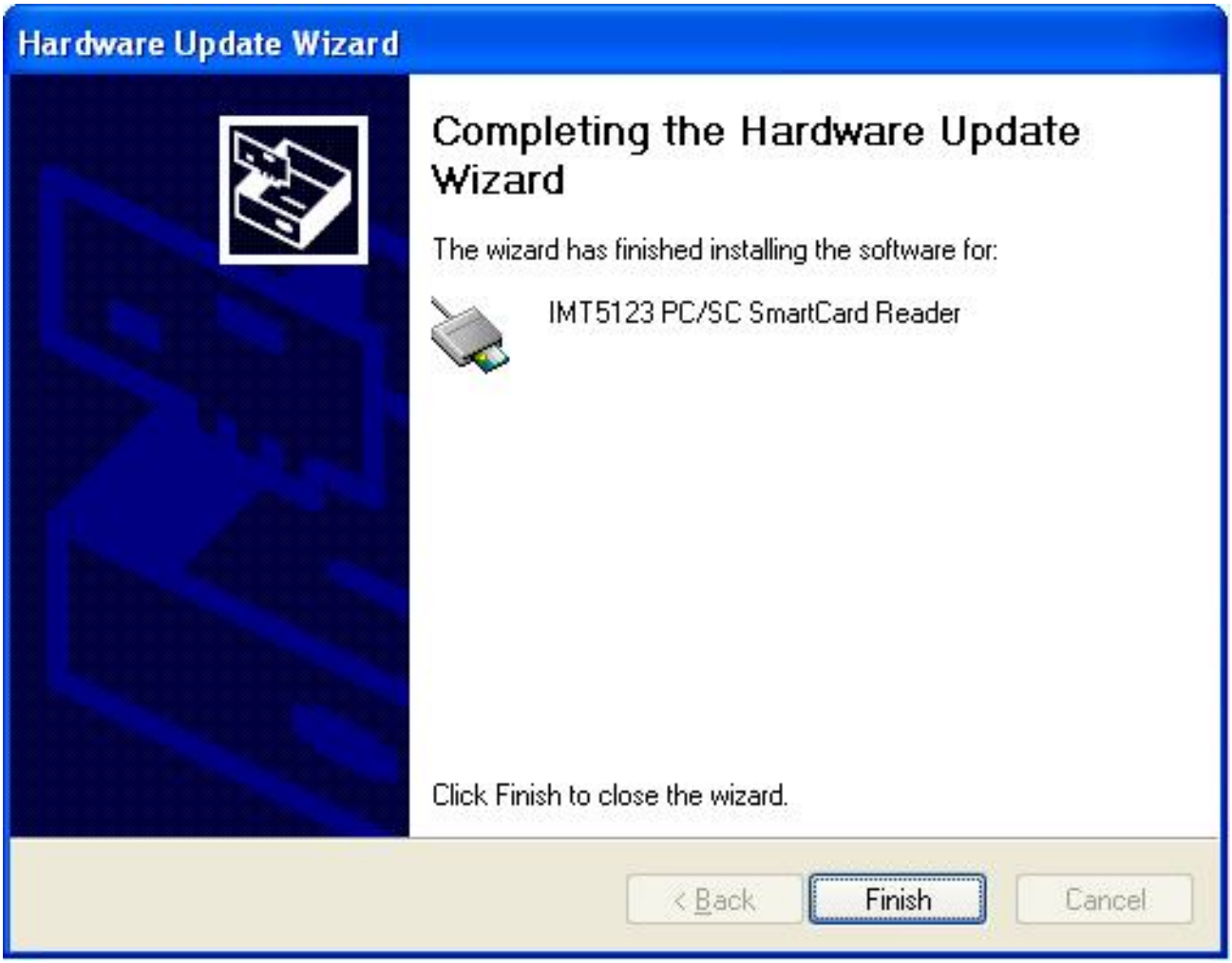
When next setup window appear select the next step to continue setup.

Hardware Installation
The software you are installing for this hardware:
IMT5123 PC/SC SmartCard Reader
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

When next setup window appear select the "Continue Anyway" step to continue setup.



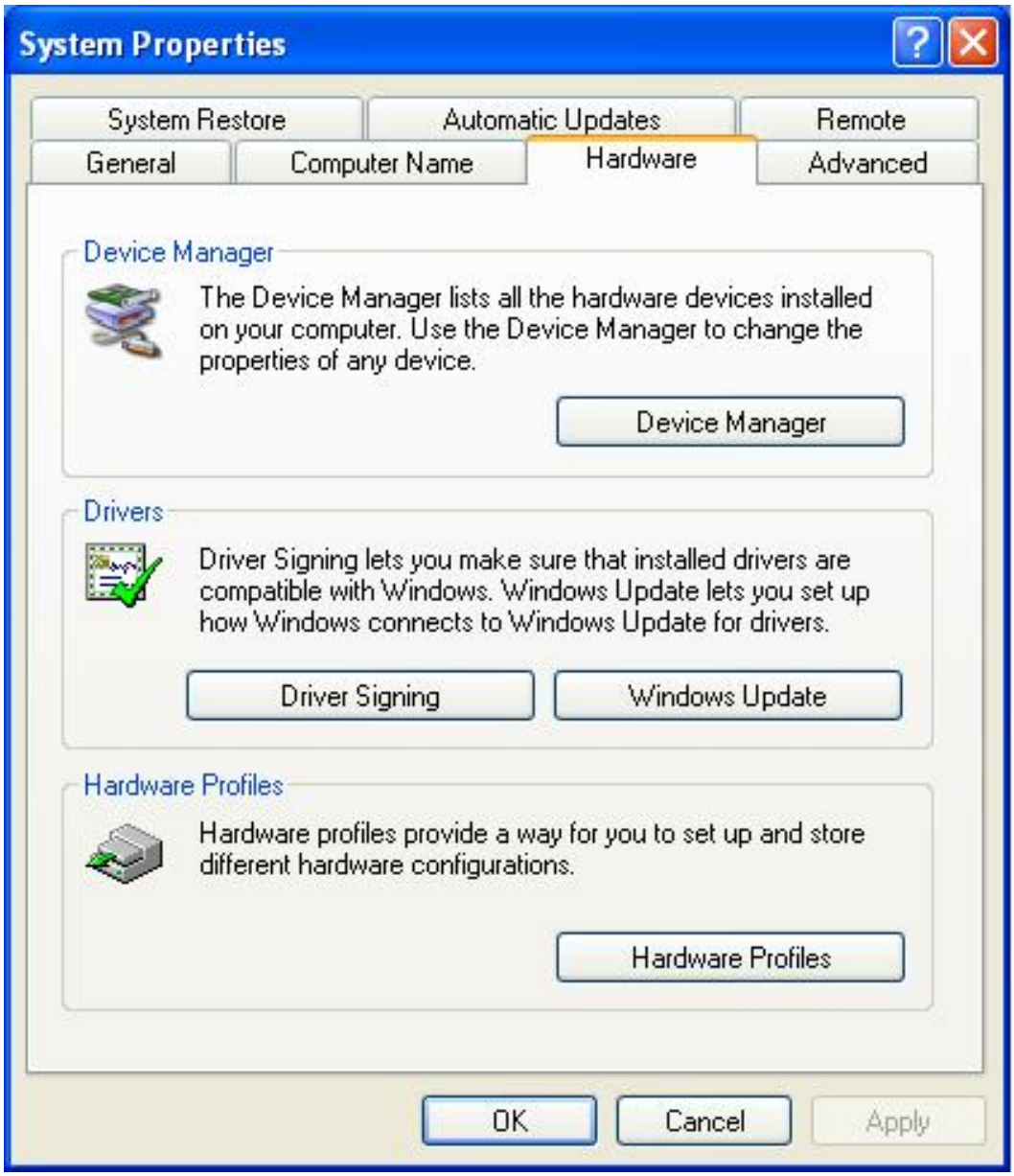
Above screen shows the installation process window.



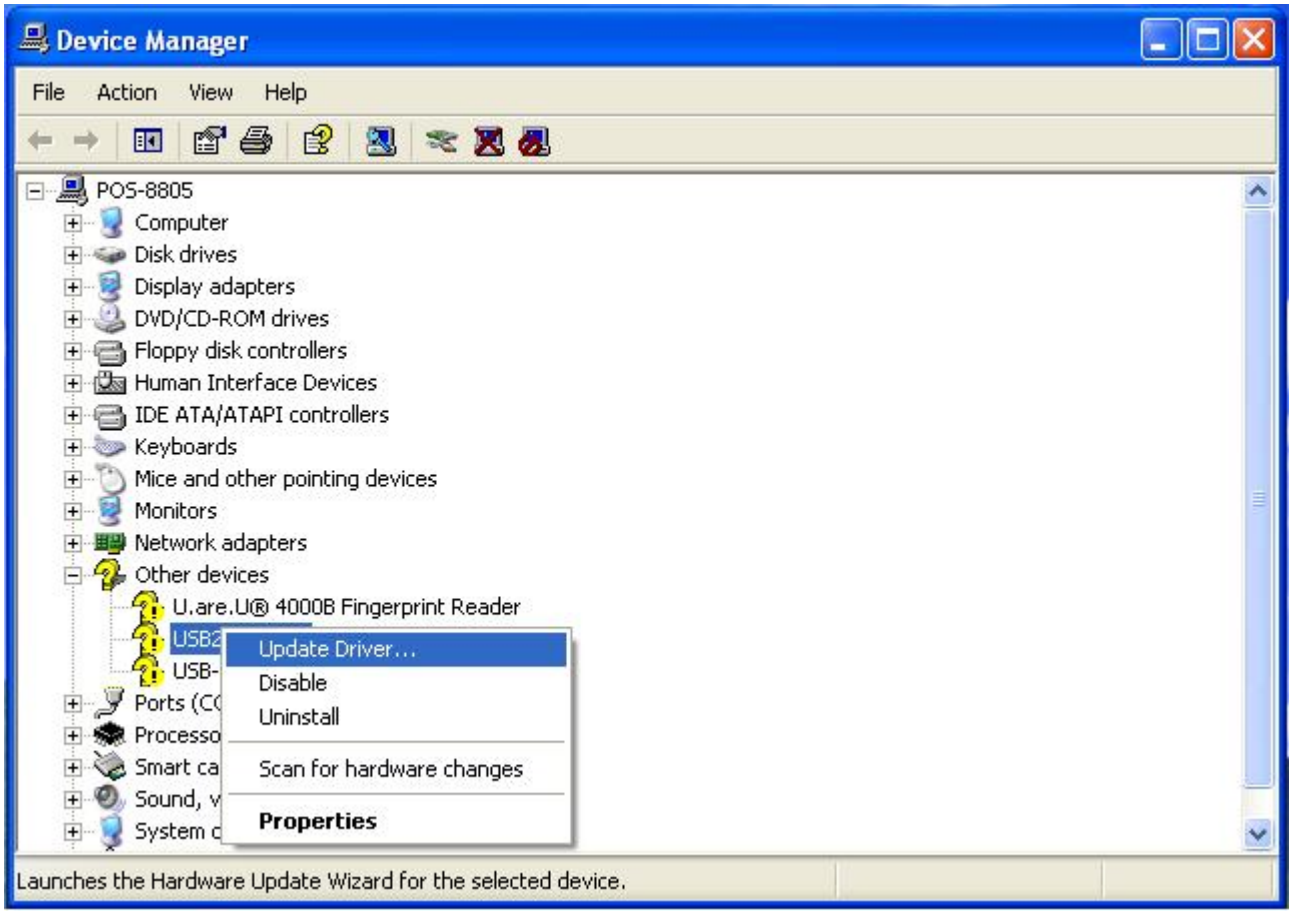
After installation complete select "Finish".

Wi-Fi Driver

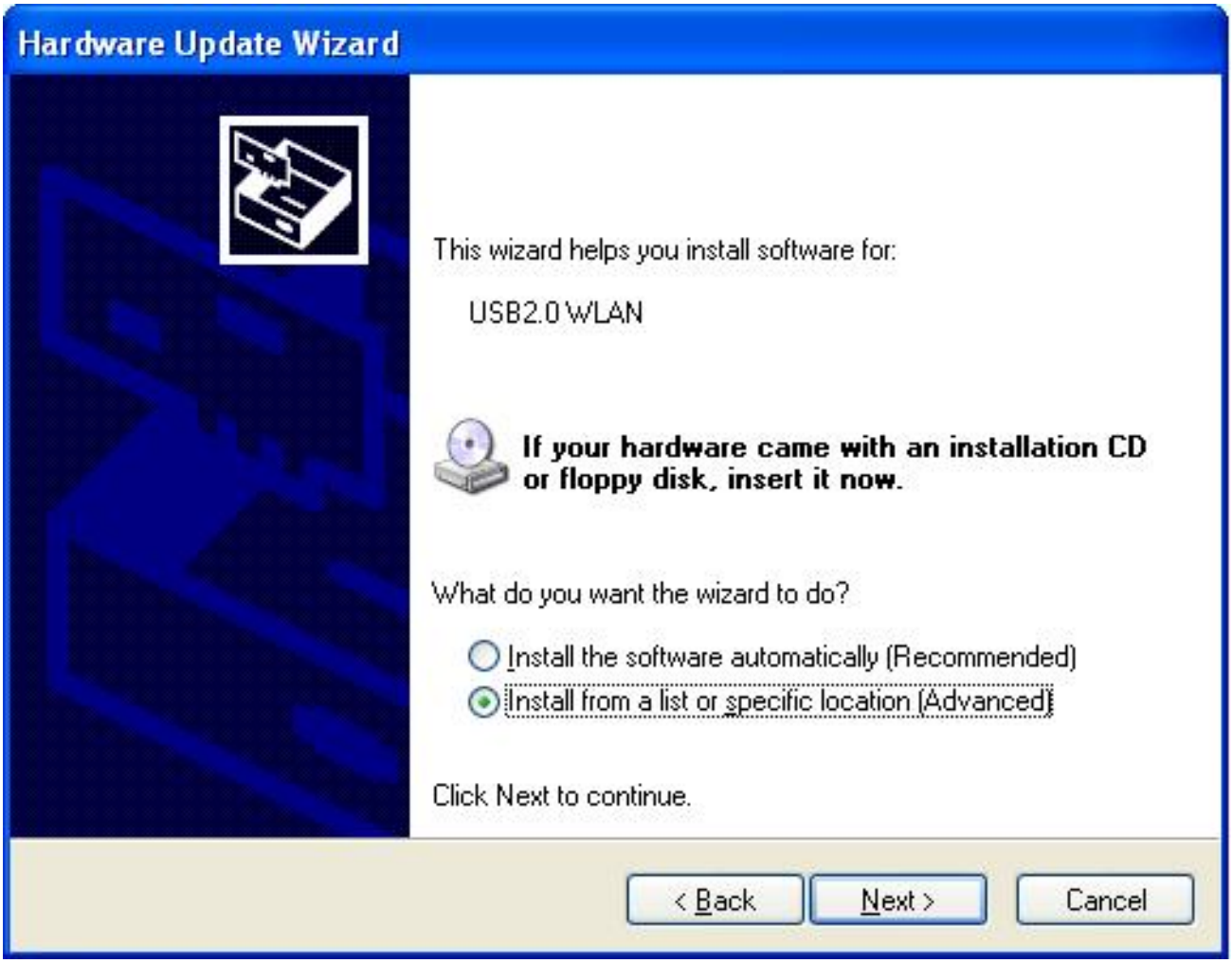
Right click "My Computer" and select the Properties.


System Properties
System Restore
Automatic Updates
Remote
General
Computer Name
Hardware
Advanced
Device Manager
The Device Manager lists all the hardware devices installed on your computer. Use the Device Manager to change the properties of any device.
Device Manager
Drivers
Driver Signing lets you make sure that installed drivers are compatible with Windows. Windows Update lets you set up how Windows connects to Windows Update for drivers.
Driver Signing
Windows Update
Hardware Profiles
Hardware profiles provide a way for you to set up and store different hardware configurations.
Hardware Profiles
OK
Cancel
Apply

Select "Device Manager".

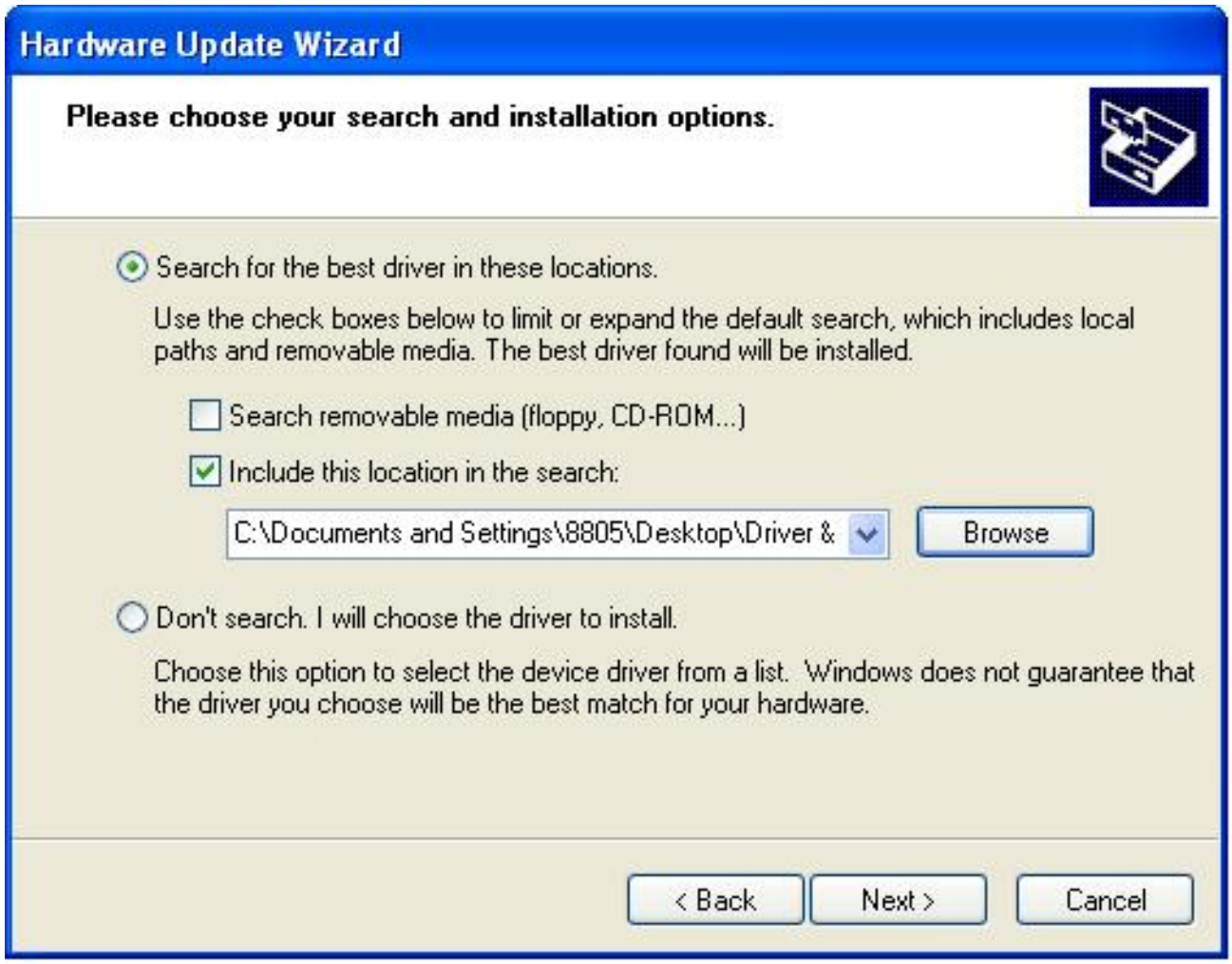


Select "USB2.0 WLAN" and right click to choose "Update Driver.."


Hardware Update Wizard
This wizard helps you install software for:
USB2.0 WLAN
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

When the setup screen appears than to select "Advanced" & "Next" step.

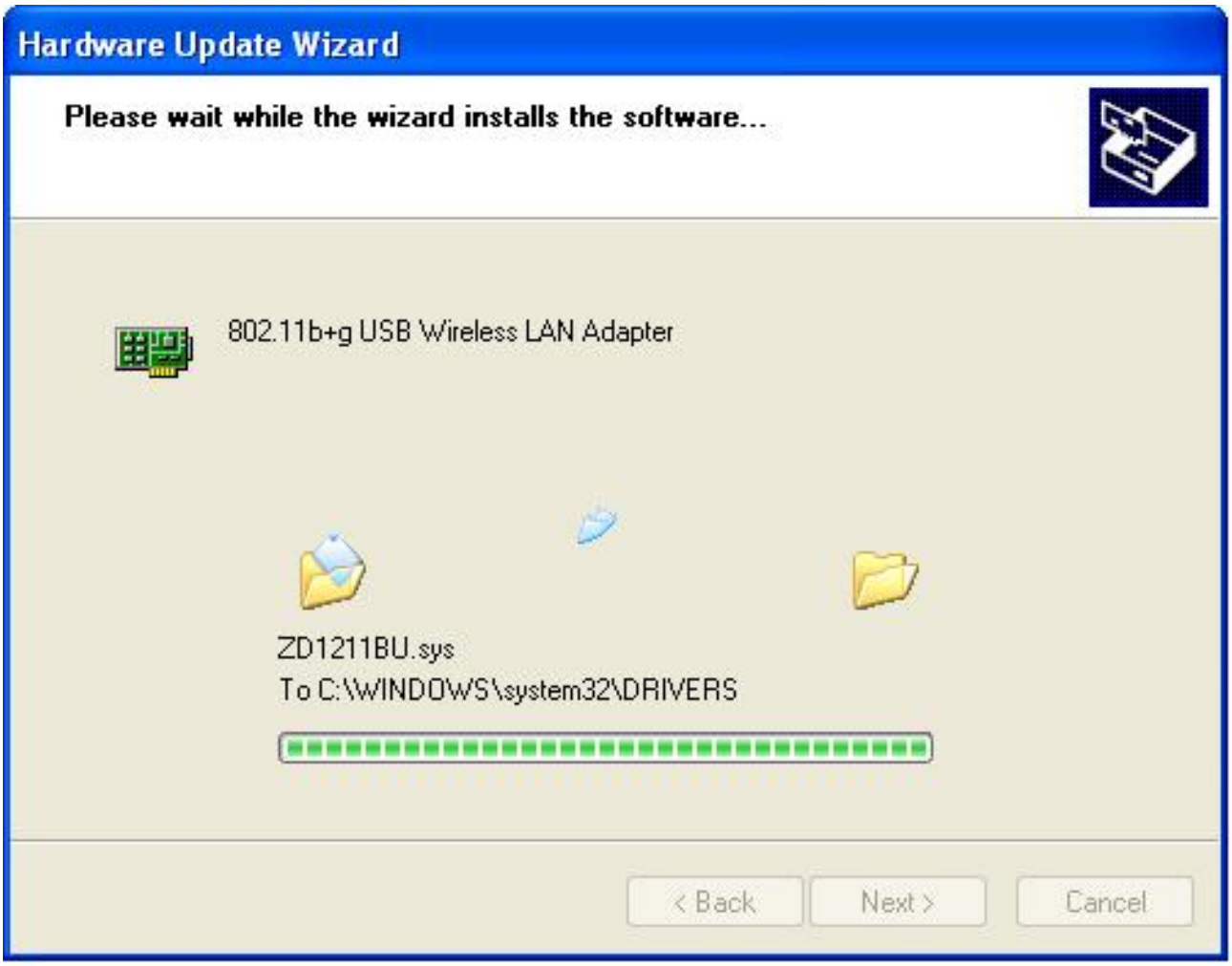
Select Wi-Fi Driver folder.


Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
C:\Documents and Settings\8805\Desktop\Driver &
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

When next setup window appear select the next step to continue setup.

Hardware Installation
The software you are installing for this hardware:
802.11b+g USB Wireless LAN Adapter
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

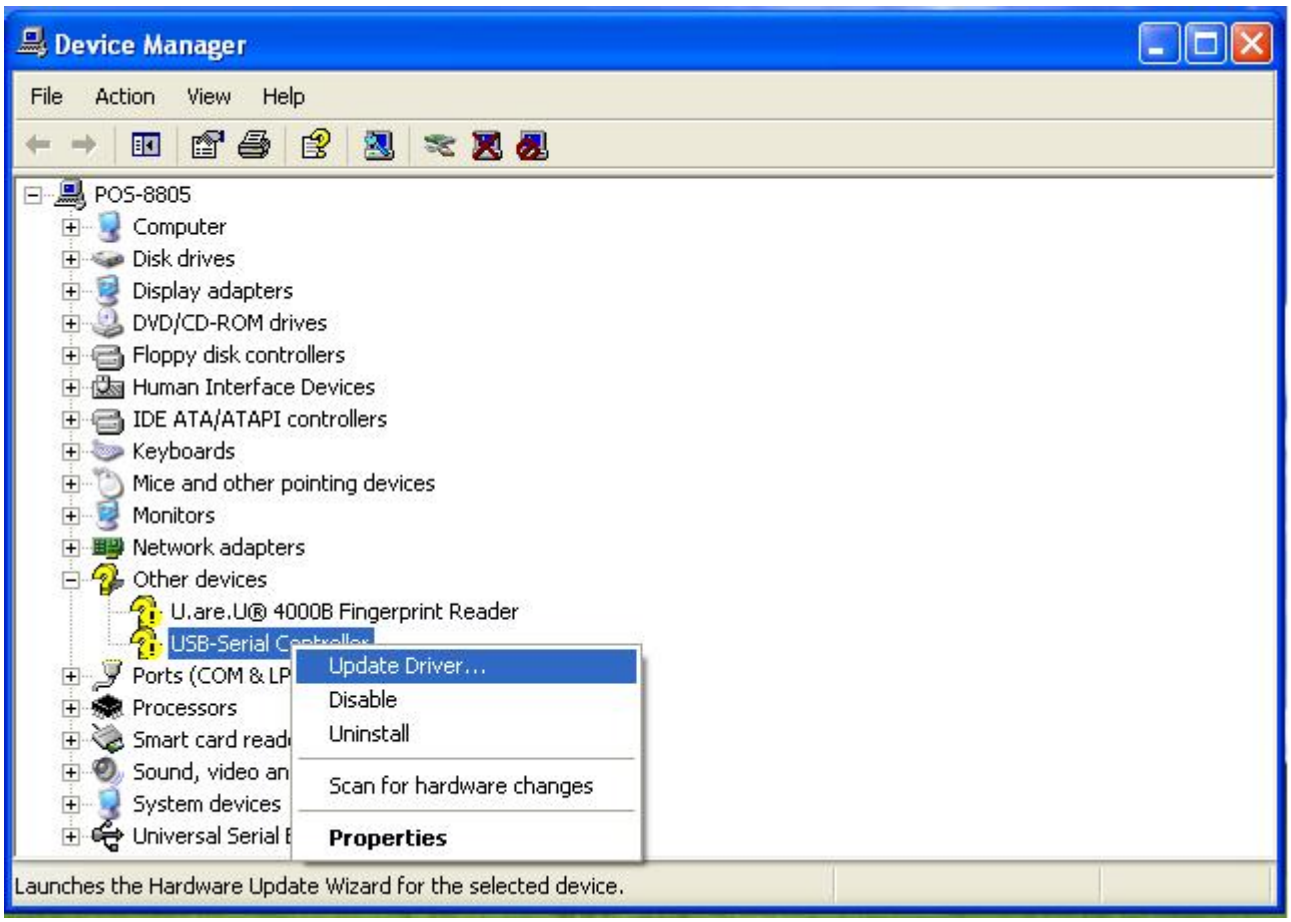
When next setup window appear select the "Continue Anyway" step to continue setup.



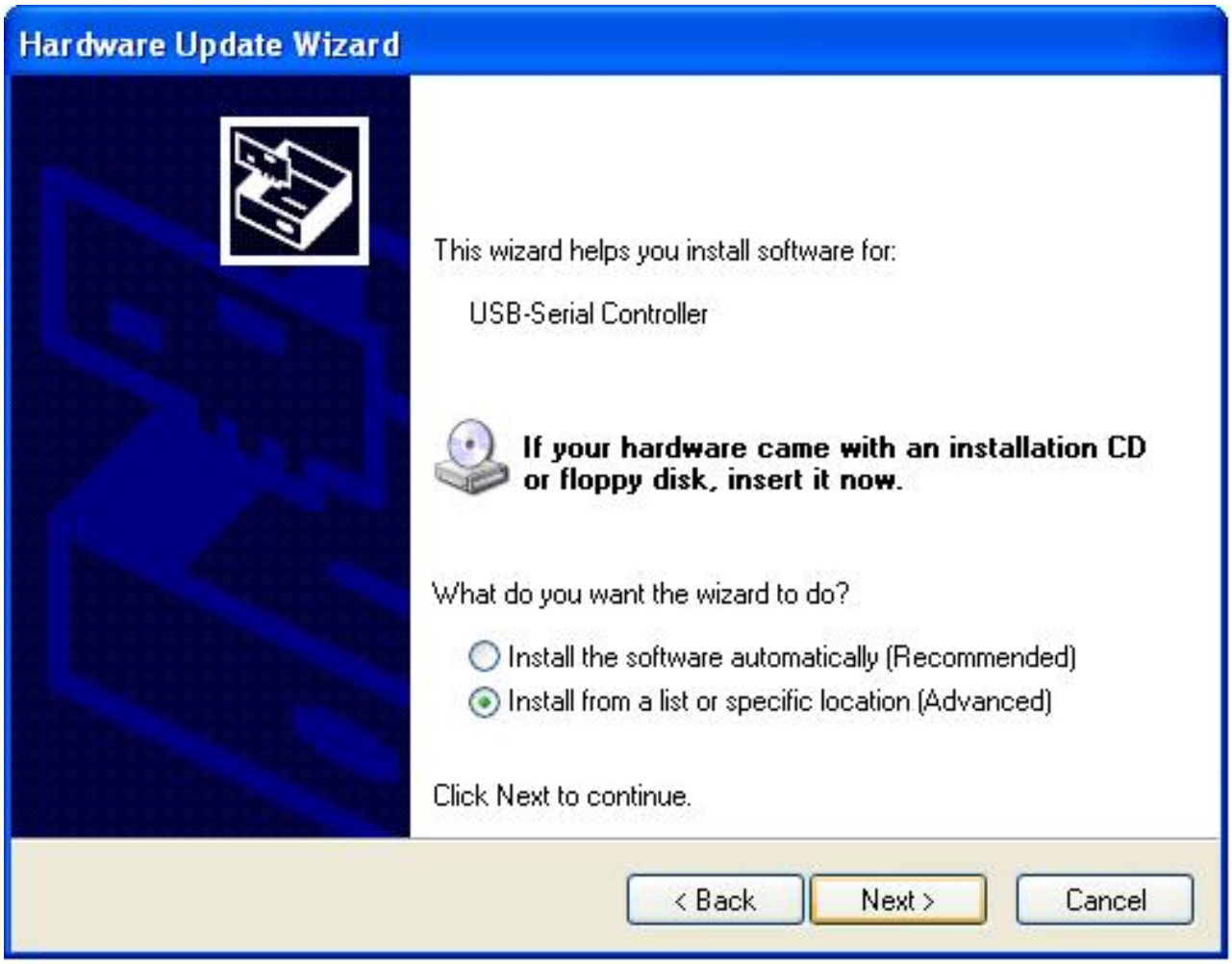
Above screen shows the installation process window.

After installation complete select "Finish".

Mifare Driver

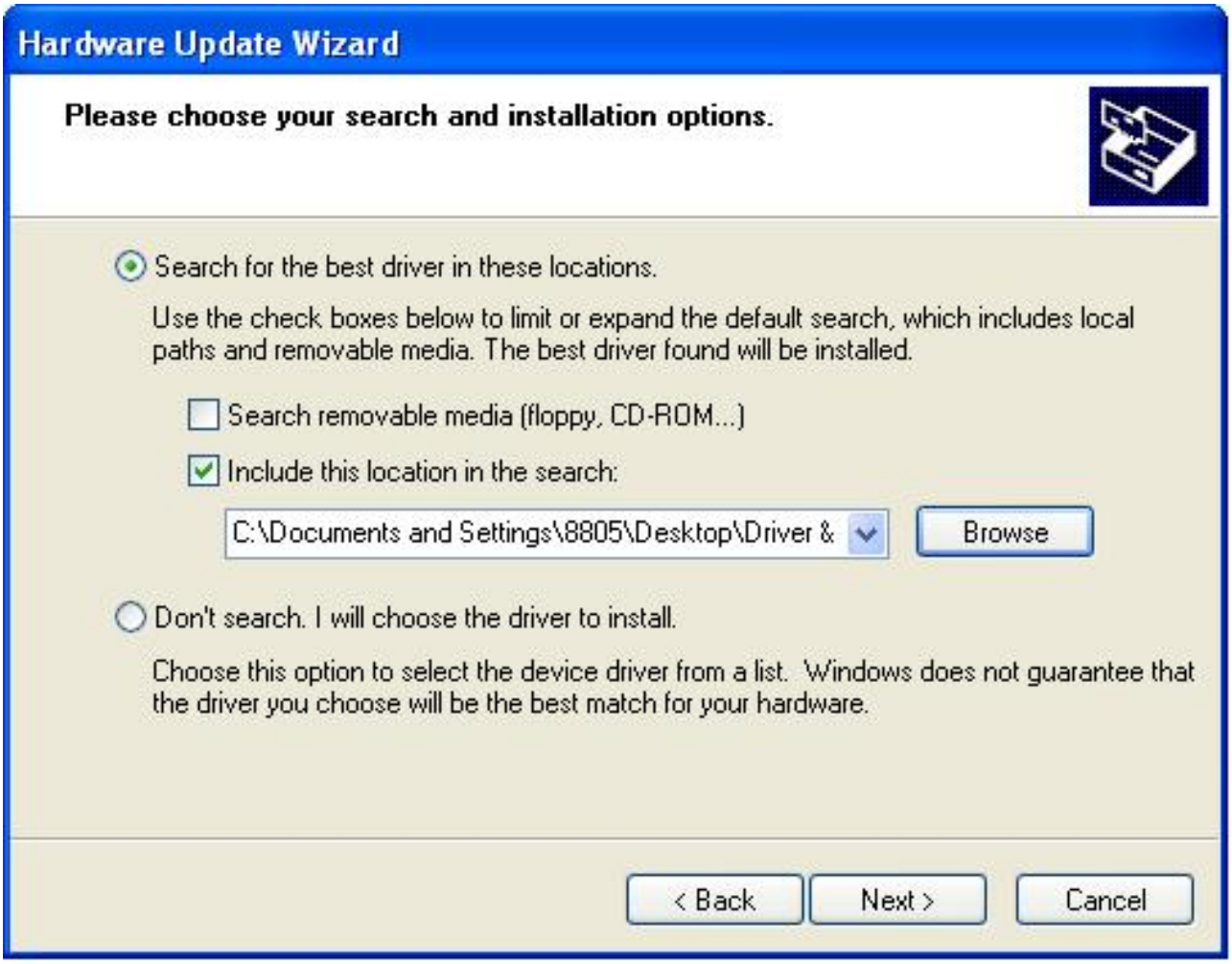


Select "USB-Serial Control" and right click to choose "Update Driver.."

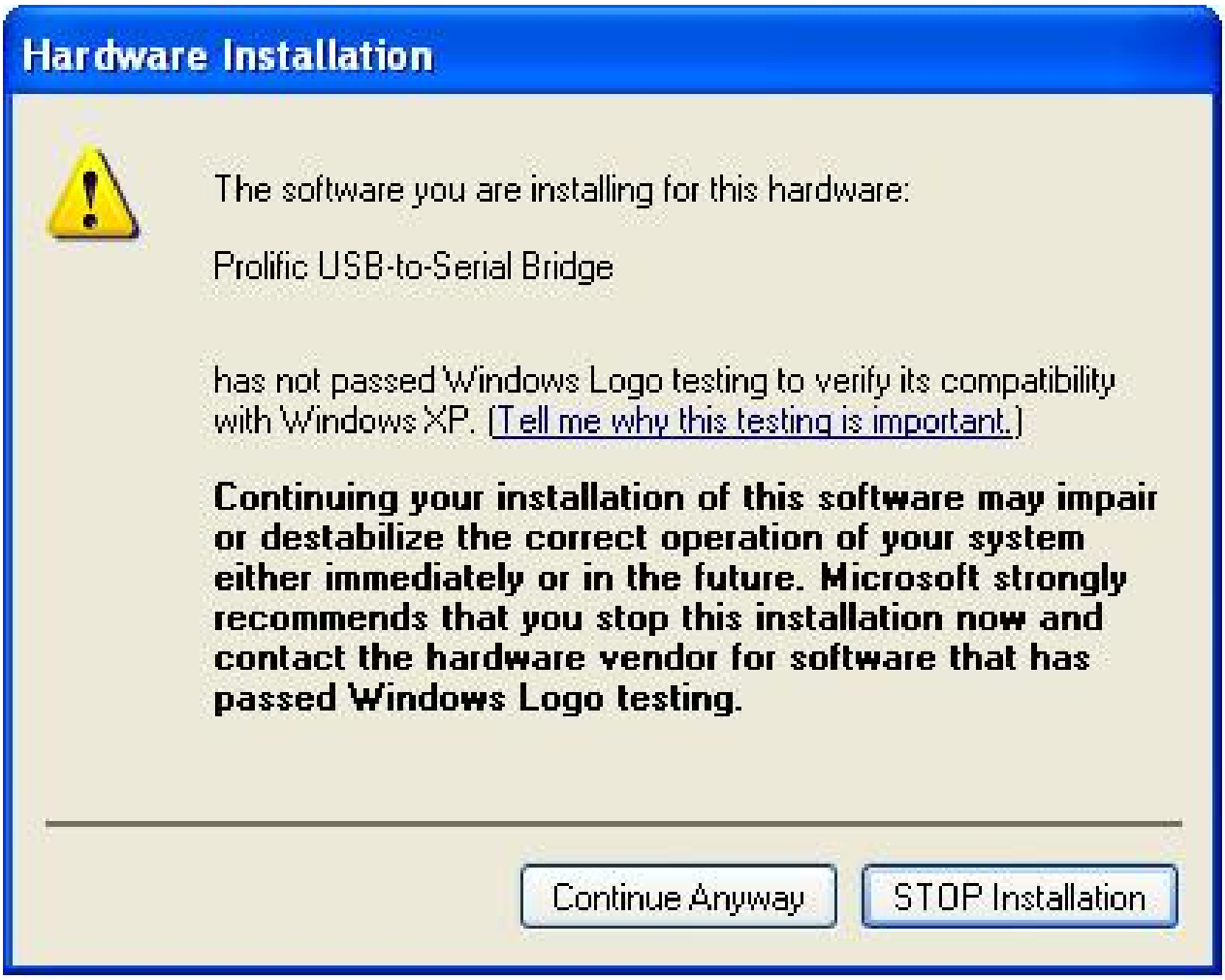

Hardware Update Wizard
This wizard helps you install software for:
USB-Serial Controller
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

When the setup screen appears than to select "Advanced" & "Next" step.

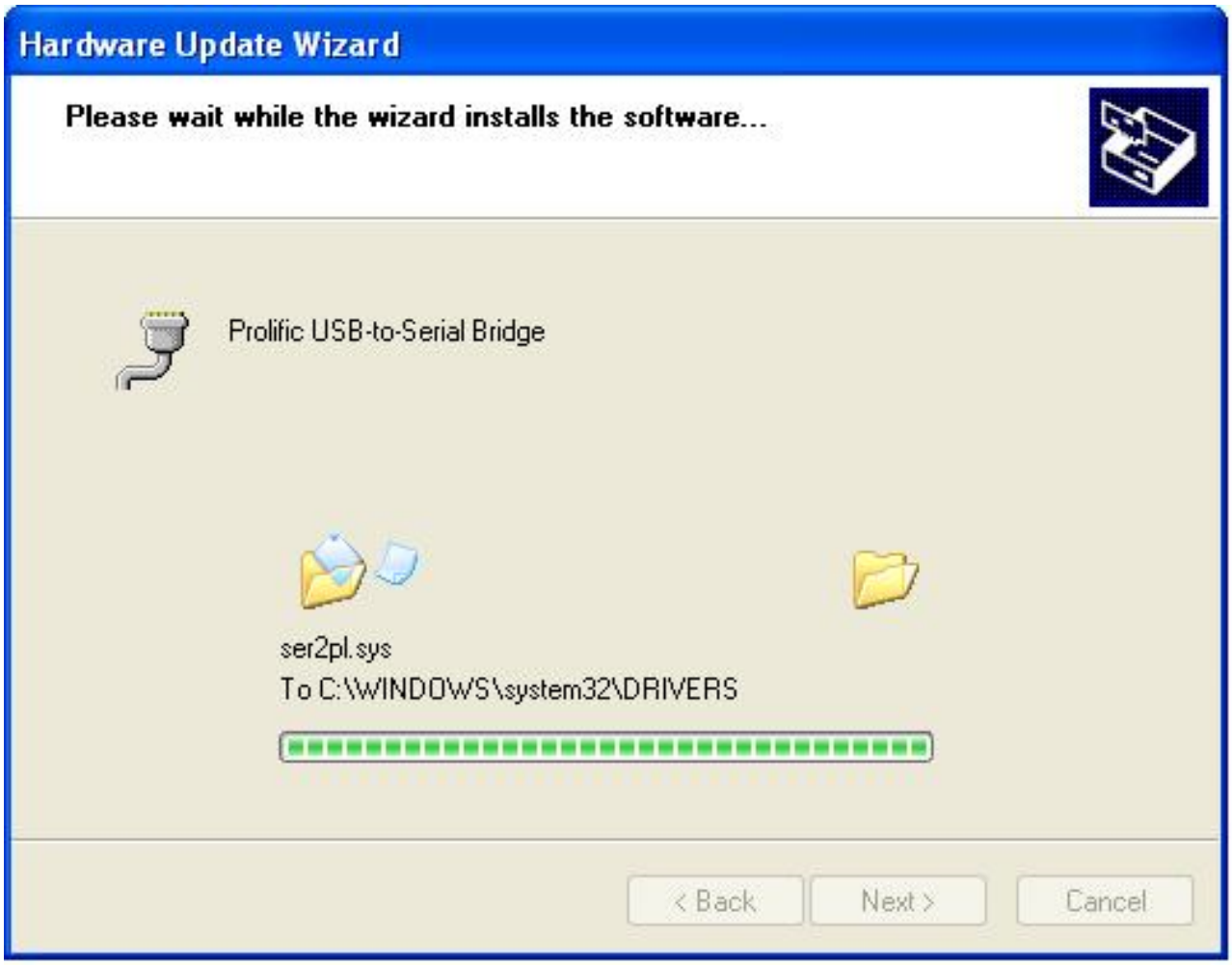
Select Mifare Driver folder.


Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
C:\Documents and Settings\8805\Desktop\Driver &
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

When next setup window appear select the next step to continue setup.


Hardware Installation
The software you are installing for this hardware:
Prolific USB-to-Serial Bridge
has not passed Windows Logo testing to verify its compatibility with Windows XP. [Tell me why this testing is important.]
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

When next setup window appear select the "Continue Anyway" step to continue setup.



Above screen shows the installation process window.

Hardware Update Wizard
Completing the Hardware Update Wizard
The wizard has finished installing the software for:
Prolific USB-to-Serial Bridge
The hardware you installed will not work until you restart your computer.
Click Finish to close the wizard.
< Back
Finish
Cancel

After installation complete select "Finish".

CHAPTER 4 Commands for Peripheral Controlling

RS232 Protocol: 9600, N, 8, 1

Follow the standard command:
Send : <ESC> <Command code> <Length> <Data>
Response: <ESC> <Status code><length><data>

Note: 8802 controller return a beep after power on, delay about 3 sec then urn on the Main TFT Backlight, return another beep and then start to receive the RS232 commands.

Read products Model Name

Command : <ESC><00h> Length & Data don't need.

- **Response :** <ESC><00h><07h><JP-8802>

Read Products Version info

Command : <ESC><01h> Length & Data don't need.

Response: <ESC><01h> <Length depends on data ><8802 POS …… V1.0 ….>

Beeps command:

Command : <ESC><22h> <01h><data>
<Data> = 00h ~ FFh , means how many beeps.
Response: <ESC><22h><01h><data>

Sound command:

Command : <ESC><24h> <02h><m><n>
m: tempo (ASCII DEC 1~255)
n: Frequency (ASCII DEC 1~255)
Response: <ESC><24h><02h><m><n>

Example:
<ESC><24h><02h><dec 2><dec 191> for play sound "Do"

Example Sound frequency Table:

Do	**Re**	**Mi**	**Fa**	**So**	**La**	**Si**
				G- : 255	A- : 227	B- : 202
C : 191	D : 170	E : 151	F : 143	G : 127	A : 113	B : 101
C+: 95	D+: 85	E+: 75	F+: 71	G+: 63	A+: 57	B+: 50

Open Cash Drawer Command :

Before send command, please confirm the SW1 for provides voltage:

- SW1=OFF: 24V (default) SW1=ON: 12V

The SW2 is for setting auto response cash drawer sensor status after trigger cash drawer, or if someone manually to open the cash drawer or close the cash drawer
Then controller will auto response status to software application.

.

SW2=OFF: disable (default) SW2=ON: Enable

Open Cash Drawer 1

Command : <ESC> + 34h (dec 52)

When SW2=ON response: **<ESC> + 34h (dec 52) + N**
N = "A" (41h, dec 65) , means Cash Drawer 1 is close.
N = "B" (42h, dec 66) , means Cash Drawer 1 is open.

Open Cash Drawer 2

Command : <ESC> + 35h (dec 53)

When SW2=ON response: **<ESC> + 35h (dec 53) + N**
N = "A" (41h, dec 65), means Cash Drawer 2 is close.
N = "B" (42h, dec 66), means Cash Drawer 2 is open.

Detect Cash Drawer 1 Sensor
Command : <ESC> + 3Ah (dec 58)

Response: **<ESC> + 34h (dec 52) + N**

N = "A" (41h, dec 65) , means Cash Drawer 1 is close.

N = "B" (42h, dec 66) , means Cash Drawer 1 is open.

Detect Cash Drawer 2 Sensor

Command : <ESC> + 3Bh (dec 59)

Response: **<ESC> + 35h (dec 53) + N**

N = "A" (41h, dec 65), means Cash Drawer 2 is close.

N = "B" (42h, dec 66), means Cash Drawer 2 is open.

Turn on the main TFT LCD backlight

Command : <ESC> + 38h (dec 56)

Turn off the main TFT LCD backlight

Command : <ESC> + 39h (dec 57)

–

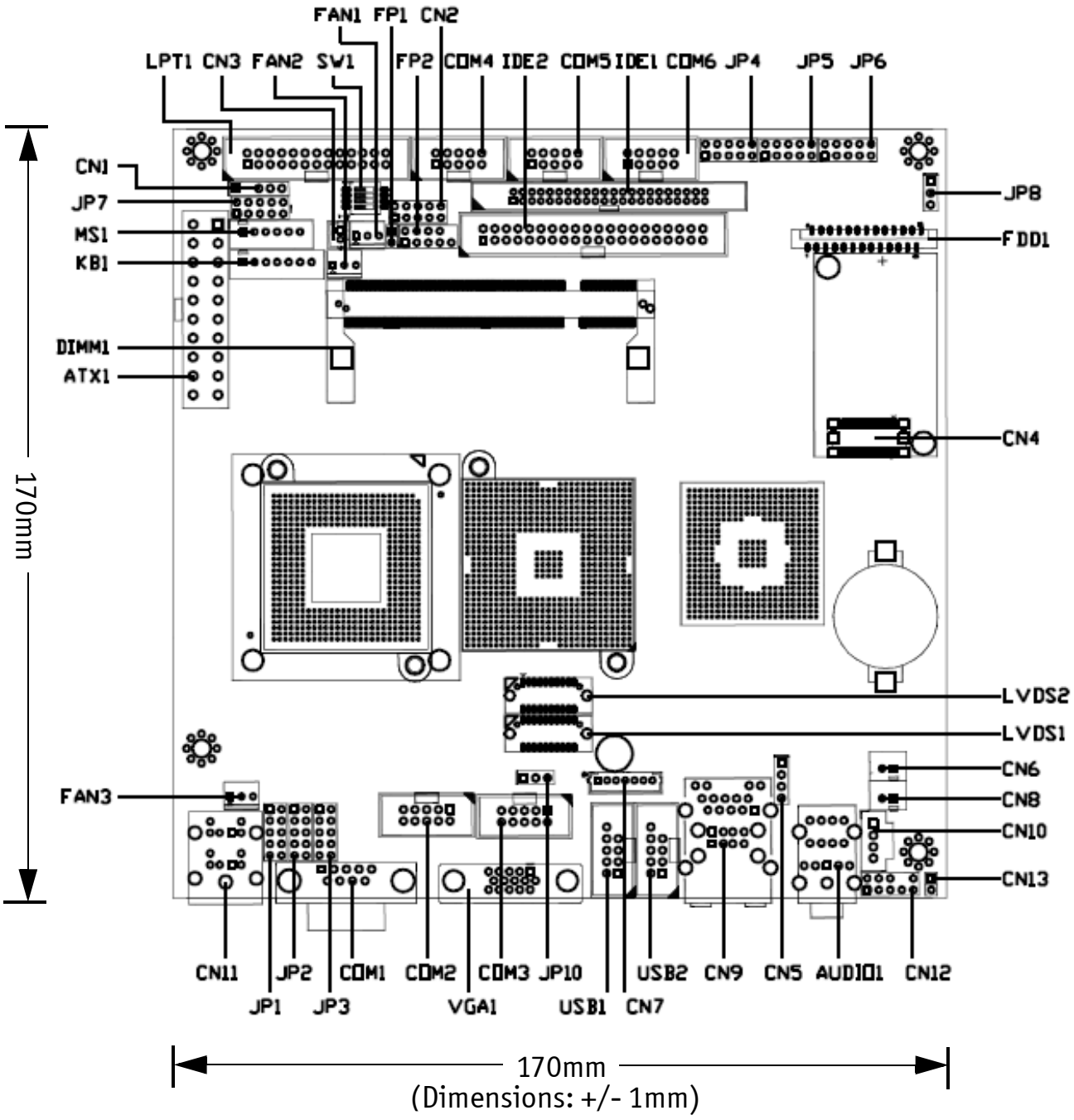
Support Epson command to open the cash drawer:

1. **[ESC] p m t1 t2**
2. **DLE DC4 n m t**

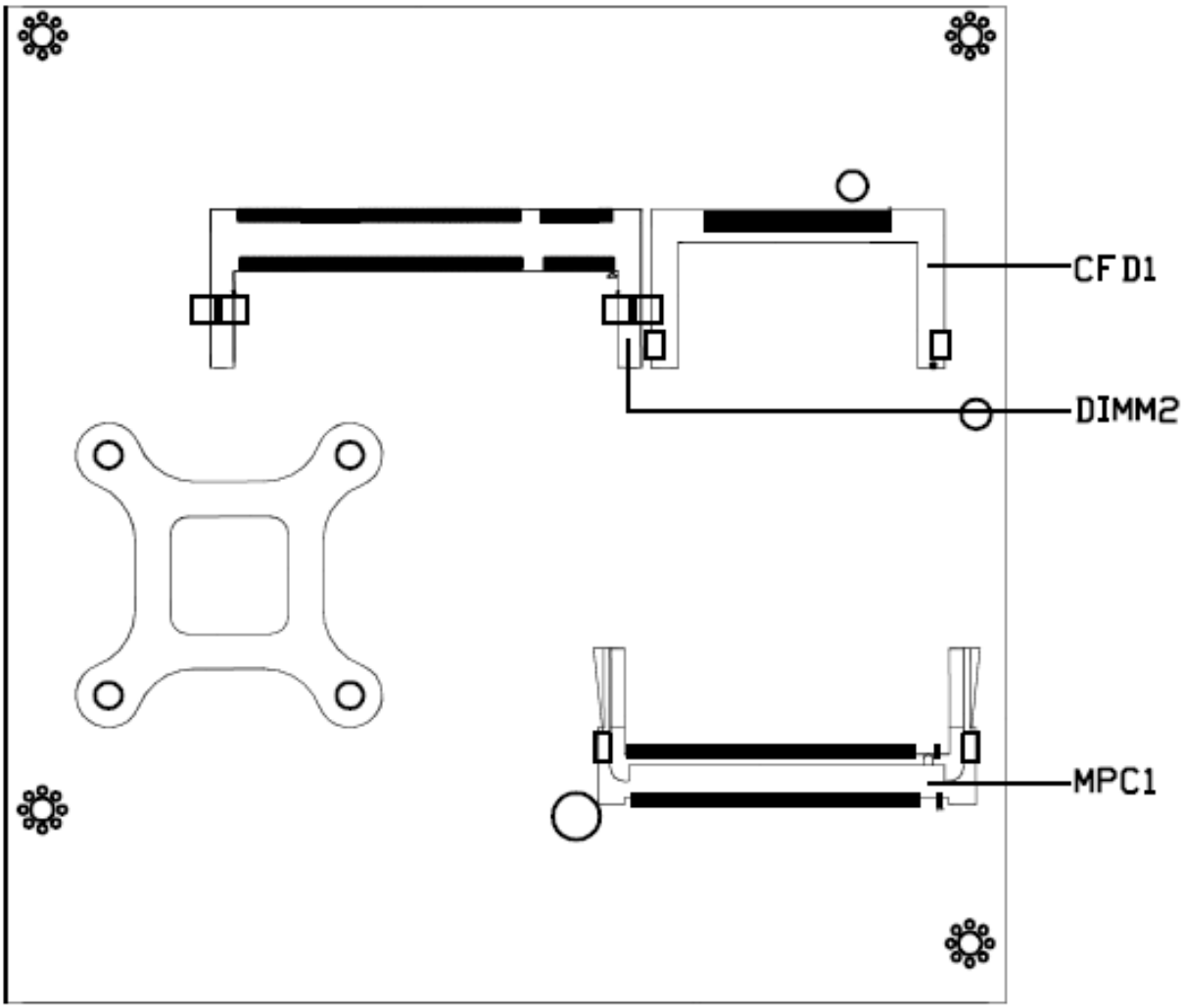
CHAPTER 5 Hardware Configuration

5-1. COMPONENT LOCATIONS

Placement Top View



Bottom View



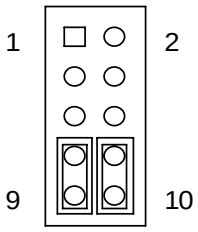
Jumper Settings

To ensure correct system configuration, the following section describes how to set the jumpers to enable/disable or change functions. For jumper descriptions, please refer to the table below.

Location	Function
JP1	COM1 Signal / Power Selection
JP2	COM2 Signal / Power Selection
JP3	COM3 Signal / Power Selection
JP4	COM4 Signal / Power Selection
JP5	COM5 Signal / Power Selection
JP6	COM6 Signal / Power Selection
JP7	LPT1 Signal / Power Selection
JP8	CFD1 Master / Slave Selection
JP9	Clear CMOS Selection
JP10	LVDS Panel Power Selection

Table 2-1. Jumper Descriptions

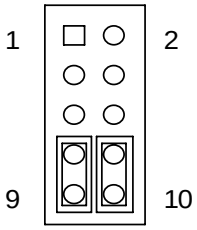
JP1 - COM1 Signal/Power Selection (Pitch: 2.54mm):



Jumper	Setting	Function
1	1-3 Short	Pin 1 of COM1 = +12V
	3-5 Short	Pin 1 of COM1 = +5V
2	5-7 Short	Pin 1 of COM1 = +5V
	7-9 Short	Pin 1 of COM1 = DCD
	2-4 Short	Pin 9 of COM1 = +12V
	4-6 Short	Pin 9 of COM1 = +5V
	6-8 Short	Pin 9 of COM1 = +5V
	8-10 Short	Pin 9 of COM1 = RI

Table 2-2. JP1 - COM1 Signal/Power Selection Settings

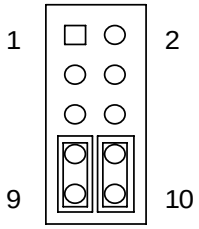
JP2 - COM2 Signal/Power Selection (Pitch: 2.54mm):



Jumper	Setting	Function
1	1-3 Short	Pin 1 of COM2 = +12V
	3-5 Short	Pin 1 of COM2 = +5V
2	5-7 Short	Pin 1 of COM2 = +5V
	7-9 Short	Pin 1 of COM2 = DCD@RS232, TX+@RS422, RTX+@RS485
	2-4 Short	Pin 8 of COM1 = +12V
	4-6 Short	Pin 8 of COM1 = +5V
	6-8 Short	Pin 8 of COM1 = +5V
	8-10 Short	Pin 8 of COM1 = RI

Table 2-3. JP1 - COM2 Signal/Power Selection Settings

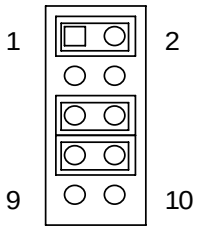
JPx - COMx Signal/Power Selection (x = 3, 4, 5, 6 - Pitch: 2.54mm):



Jumper	Setting	Function
1	1-3 Short	Pin 1 of COMx = +12V
	3-5 Short	Pin 1 of COMx = +5V
2	5-7 Short	Pin 1 of COMx = +5V
	7-9 Short	Pin 1 of COMx = DCD
	2-4 Short	Pin 8 of COMx = +12V
	4-6 Short	Pin 8 of COMx = +5V
	6-8 Short	Pin 8 of COMx = +5V
	8-10 Short	Pin 8 of COMx = RI

Table 2-4. JP1 - COM3-6 Signal/Power Selection Settings

JP7 - LPT1 Signal/Power Selection (Pitch: 2.54mm):



Jumper	Setting	Function
1	1-2 Short	Pin 4 of LPT1 = ERR#
	1-3 Short	Pin 4 of LPT1 = +5V
2	4-6 Short	Pin 6 of LPT1 = +5V
	5-6 Short	Pin 6 of LPT1 = INIT#
3	7-8 Short	Pin 8 of LPT1 = SLIN#
	7-9 Short	Pin 8 of LPT1 = +5V

Table 2-5. JP1 - LPT1 Signal/Power Selection

CF Master/Slave Selector (JP8: 3-pin 2.54mm pitch header):

Function	JP1
Master	1-2 Short
Slave (Default)	2-3 Short

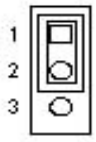


Table 2-6. CF Master/Slave Setting

Clear CMOS setting (JP9: 2-pin 2.54mm pitch header):

Function	JP2
Normal (Default)	Open
Clear CMOS	Short

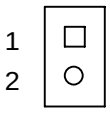


Table 2-7. Clear CMOS Setting

Panel Power Selector (JP10: 3-pin 2.54mm pitch header):

Function	JP3
+ 3.3 V (Default)	1-2 Short
+ 5 V	2-3 Short

Table 2-8. Panel Power Setting

Connector Pin Definitions

For Main Board connector and header descriptions, please refer to the table below.

Connector	Function
ATX1	ATX Power Connector
CFD1	Compact Flash type I/II Connector
CN1	IrDA Pin Header
CN2	Digital Input / Digital Output Pin Header
CN3	SM Bus Wafer
CN6	Left Audio AMP Output Wafer
CN7	LVDS Backlight Inverter Wafer
CN8	Right Audio AMP Output Wafer
COM2	RS-232 / 422 / 485 Port-2 Box Header
COM3	RS-232 Port-3 Box Header
COM4	RS-232 Port-4 Box Header
COM5	RS-232 Port-5 Box Header
COM6	RS-232 Port-6 Box Header
DIMM1	Primary DDR SO-DIMM Socket
DIMM2	Secondary DDR SO-DIMM Socket
FAN1	FAN 1 Connector
FAN2	FAN 2 Connector
FAN3	FAN 3 Connector
FDD1	Slim Type Floppy Connector
FP1	Power LED Pin Header
FP2	Front Panel Pin Header
IDE1	Primary 44-pin IDE Box Header
IDE2	Secondary 40-pin IDE Box Header
KB1	Internal PS/2 Keyboard Wafer
LVDS1	Channel 1 LVDS Connector
LVDS2	Channel 2 LVDS Connector
MPCI1	Mini-PCI Socket
MS1	Internal PS/2 Mouse Wafer
SW1	External PS/2 KB/MS Switch
USB1	USB Port-2&3 Box Header
USB2	USB Port-4&5 Box Header

Table 2-9. Main Board Connector and Header Descriptions

ATX Power Connector (ATX1: 10x2 pin female):

PIN	SIGNAL	PIN	SIGNAL
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PS-ON
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	PW-OK	18	-5V
9	5VSB	19	+5V
10	+12V	20	+5V

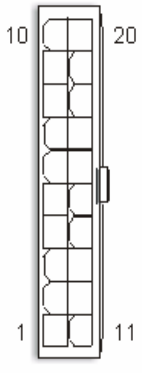


Table 2-10. ATX Power Connector pin definition

CompactFlash slot (CFD1):

PIN	SIGNAL	PIN	SIGNAL
1	GND	2	D3
3	D4	4	D5
5	D6	6	D7
7	CS0#	8	A10
9	ATASEL#	10	A9
11	A8	12	A7
13	VCC	14	A6
15	A5	16	A4
17	A3	18	A2
19	A1	20	A0
21	D0	22	D1
23	D2	24	IOCS16#
25	CD2	26	CD1
27	D11	28	D12
29	D13	30	D14
31	D15	32	CS1#
33	VS1	34	IORD#
35	IOWR#	36	WE#
37	INTRQ	38	VCC
39	CSEL#	40	VS2#
41	RESSET#	42	IORDY
43	INPACK#	44	REG#
45	DASP#	46	PDIAG#
47	D8	48	D9
49	D10	50	GND

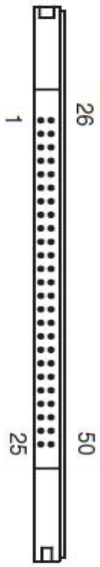
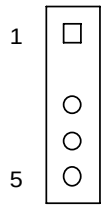


Table 2-11. CompactFlash Slot pin definition

IrDA Pin Header (CN1: 5x2-pin header 2.54mm pitch):



Pin	Signal Name
1	+5V
2	NC
3	IRRX
4	GND
5	IRTX

Table 2-12. Digital I/O Pin Header pin definition

Digital I/O Pin Header (CN2: 5x2-pin header 2.54mm pitch):

PIN	SIGNAL	PIN	SIGNAL
1	DO0	2	DI0
3	DO1	4	DI1
5	DO2	6	DI2
7	DO3	8	DI3
9	+5V	10	GND

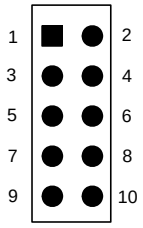
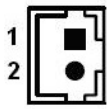


Table 2-13. Digital I/O Pin Header pin definition

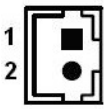
SMBus Wafer (CN3: 2x1-pin Wafer 2.0mm pitch):



Pin	Status
1	SMDAT
2	SMCLK

Table 2-14. SMBus Header pin definition

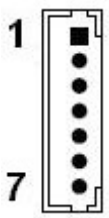
Left Audio AMP Output Wafer (CN6: 2x1-pin Wafer 2.5mm pitch):



Pin	Signal Name
1	Speaker+
2	Speaker-

Table 2-15. Left Audio AMP Output Header pin definition

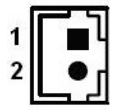
LVDS Backlight Inverter (CN7: 7x1-pin Wafer 2.0mm pitch):



Pin	Signal Name
1	+12V
2	+12V
3	+5V
4	GND
5	GND
6	Black Light Enable
7	Back Light Control

Table 2-16. LVDS Backlight Inverter Header pin definition

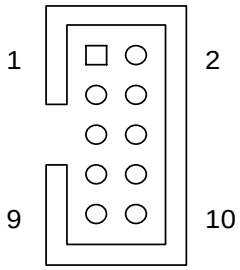
Right Audio AMP Output Wafer (CN8: 2x1-pin Wafer 2.5mm pitch):



Pin	Signal Name
1	Speaker+
2	Speaker-

Table 2-17. Right Audio AMP Output Header pin definition

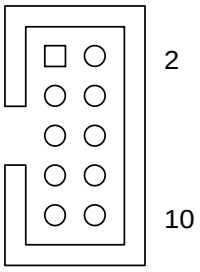
RS232/422/485 Serial Port Header (COM2: 5x2 box header 2.54mm pitch):



Pin	Signal
1	+5V / +12V / RS-232 : DCD, Data carrier detect RS-422 : TX+ RS-485 : RTX+ **Note : Selected by JP2**
2	DSR, Data set ready
3	RS-232 : RXD, Receive data RS-422 : RX+ RS-485 : N/A
4	RTS, Request to send
5	RS-232 : TXD, Transmit data RS-422 : TX- RS-485 : RTX-
6	CTS, Clear to send
7	RS-232 : DTR, Data terminal ready RS-422 : RX- RS-485 : N/A
8	+5V / +12V / RI, Ring indicator **Note : Selected by JP2**
9	GND, ground
10	NC

Table 2-18. COM2 RS232/422/485 Serial Port Header pin definition

RS232 Serial Port Header (COM3-6: 5x2 box header 2.54mm pitch):



Pin	Signal
1	+5V / +12V / DCD, Data carrier detect Note : Selected by JPx
2	DSR, Data set ready
3	RXD, Receive data
4	RTS, Request to send
5	TXD, Transmit data
6	CTS, Clear to send
7	DTR, Data terminal ready
8	+5V / +12V / RI, Ring indicator **Note : Selected by JPx**
9	GND, ground
10	NC

（x = 3, 4, 5, 6）

Table 2-19. COM3-6 RS232 Serial Port Header pin definition

Fan Connectors (Fan1-3: Wafer 2.54mm pitch):

PIN	SIGNAL
1	RPM
2	+12V
3	GDN

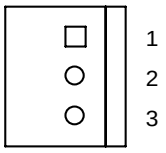
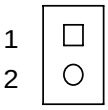


Table 2-20. Fan Connectors pin definition

Power LED Pin Header 1 (FP1: 2x1-pin 2.54mm pitch):



Pin	Status
1	Power LED +
2	Power LED -

Table 2-21. Power LED Pin Header 1 pin definition

Front Panel Pin Header 2(FP2: 5x2-pin 2.54mm pitch):

PIN	SIGNAL	PIN	SIGNAL
1	HDD LED +	2	Power LED +
3	HDD LED -	4	Power LED -
5	Reset Swatch -	6	Power Switch +
7	Reset Swatch +	8	Power Switch -
9	NC	10	Key

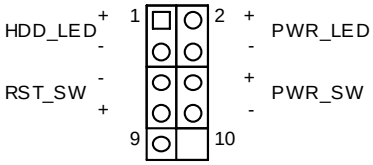


Table 2-22. Front Panel Pin Header 2 pin definition

IDE1 Connector (IDE1: 22x2 box header 2.0mm pitch):

PIN	SIGNAL	PIN	SIGNAL
1	Reset IDE	2	GND
3	IDE Data 7	4	IDE Data 8
5	IDE Data 6	6	IDE Data 9
7	IDE Data 5	8	IDE Data 10
9	IDE Data 4	10	IDE Data 11
11	IDE Data 3	12	IDE Data 12
13	IDE Data 2	14	IDE Data 13
15	IDE Data 1	16	IDE Data 14
17	IDE Data 0	18	IDE Data 15
19	Ground	20	NC
21	DREQ0	22	GND
23	IDEIOW#	24	GND
25	IDEIOR#	26	GND
27	IDEIORDY	28	CBSEL
29	DACK0#	30	GND
31	IDEIRQ14	32	NC
33	IDE Address 1	34	PDIAG#
35	IDE Address 0	36	IDE Address 2
37	IDE Chip select 1#	38	IDE Chip select 3#
39	IDE activity	40	GND
41	+5V	42	+5V
43	GND	44	NC

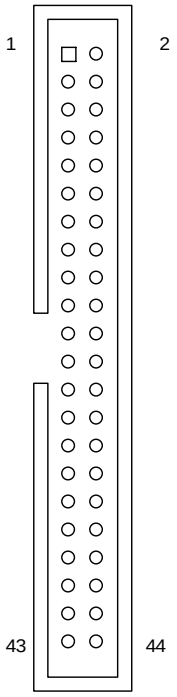


Table 2-23. IDE1 Connector pin definition

IDE2 Connector (IDE2: 20x2 box header 2.54mm pitch):

PIN	SIGNAL	PIN	SIGNAL
1	IDE RESET	2	GND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GND	20	N.C
21	REQ	22	GND
23	IO WRITE	24	GND
25	IO READ	26	GND
27	IO READY	28	GND
29	DACK	30	GND
31	IRQ14	32	N.C
33	ADDR1	34	UDMA DETECT
35	ADDR0	36	ADDR2
37	CS#1	38	CS#3
39	LED	40	GND

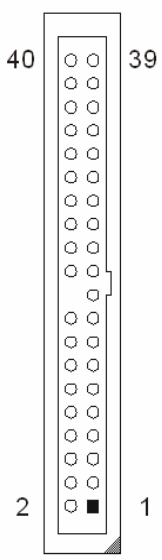
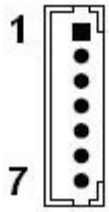


Table 2-24. IDE2 Connector pin definition

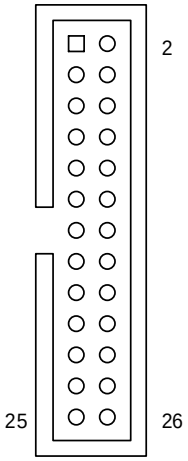
Internal PS/2 KB (KB1: Wafer 2.5mm pitch):



Pin	Signal Name
1	+12V
2	+5V
3	KBCLK_SIO
4	KBDAT_SIO
5	KBCLK_PS2
6	KBDAT_PS2
7	GND

Table 2-25. Internal KB Wafer pin definition

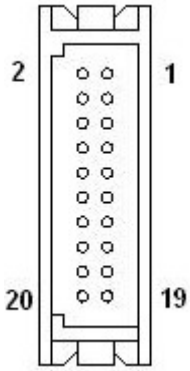
Parallel Port Box Header (LPT1: 2.54mm):



Pin	Signal	Pin	Signal
1	Strob#, Line printer strobe	2	AutoFeed
3	PD0, parallel data 0	4	Error / +5V **Note：Selected by JP7**
5	PD1, parallel data 1	6	Initialize / +5V **Note：Selected by JP7**
7	PD2, parallel data 2	8	Select In / +5V **Note：Selected by JP7**
9	PD3, parallel data 3	10	GND
11	PD4, parallel data 4	12	GND
13	PD5, parallel data 5	14	GND
15	PD6, parallel data 6	16	GND
17	PD7, parallel data 7	18	GND
19	ACK, acknowledge	20	GND
21	Busy	22	GND
23	Paper empty	24	GND
25	Select	26	NC

Table 2-26. Parallel Port pin definition

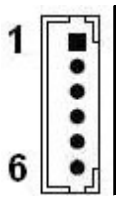
LVDS1-2 Channel 1-2 Connector (LVDS1-2: Hirose DF13 1.25mm):



Signal Name	Pin	Pin	Signal Name
+3.3V / +5V **Note：Selected by JP10**	1	2	+3.3V / +5V **Note：Selected by JP10**
+3.3V / +5V **Note：Selected by JP10**	3	4	+3.3V / +5V **Note：Selected by JP10**
LVDS_TX0-	5	6	LVDS_TX3-
LVDS_TX0+	7	8	LVDS_TX3+
GND	9	10	GND
LVDS_TX1-	11	12	LVDS_CLK-
LVDS_TX1+	13	14	LVDS_CLK+
GND	15	16	GND
LVDS_TX2-	17	18	GND
LVDS_TX2+	19	20	GND

Table 2-27. LVDS1-2 Connector pin definition

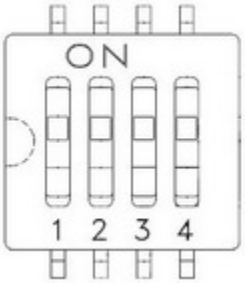
Internal PS/2 Mouse (MS1: Wafer 2.5mm pitch):



Pin	Signal Name
1	+5V
2	MSCLK_SIO
3	MSDAT_SIO
4	MSCLK_PS2
5	MSDAT_PS2
6	GND

Table 2-28. Internal Mouse Wafer pin definition

External PS/2 KB/Mouse Switch (SW1):



Switch	Status	Function
1	ON	KBCLK_SIO and KBCLK_PS2 are shorted.
	OFF	KBCLK_SIO and KBCLK_PS2 are open.
2	ON	KBDAT_SIO and KBDAT_PS2 are shorted.
	OFF	KBDAT_SIO and KBDAT_PS2 are open.
3	ON	MSCLK_SIO and MSCLK_PS2 are shorted.
	OFF	MSCLK_SIO and MSCLK_PS2 are open.
4	ON	MSDAT_SIO and MSDAT_PS2 are shorted.
	OFF	MSDAT_SIO and MSDAT_PS2 are open.

Table 2-29. External PS/2 KB/Mouse switch

USB2-3 Ports Header (USB1: 5x2-pin header 2.54mm pitch):

PIN	SIGNAL	PIN	SIGNAL
1	+5V	2	+5V
3	USBD2-	4	USBD3-
5	USBD2+	6	USBD3+
7	GND	8	GND
9	"key"	10	GND

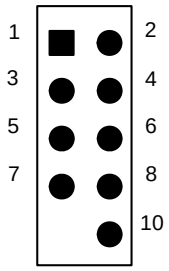


Table 2-30. USB1 Header pin definition

USB4-5 Ports Header (USB2: 5x2-pin header 2.54mm pitch):

PIN	SIGNAL	PIN	SIGNAL
1	+5V	2	+5V
3	USBD4-	4	USBD5-
5	USBD4+	6	USBD5+
7	GND	8	GND
9	"key"	10	GND

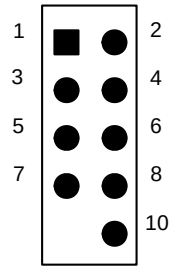


Table 2-31. USB2 Header pin definition

Pin Definitions - Rear Panel

Location	Function
AUDIO1	Audio Phone Jack
COM1	RS-232 Port-1 DB9 Connector
CN9	RJ-45 + USB Port-0&1 Connector
CN11	Mini-DIN PS/2 KB/MS Connector
VGA1	CRT DB-15 Connector

Table 2-32. KEOD-4014 Rear Panel Connector Descriptions

Audio Jack Connector (AUDIO1: audio jack connector):

COLOR	SIGNAL
Blue	Line-in
Green	Line- out
Pink	MIC-in

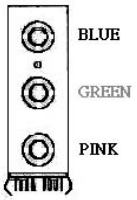
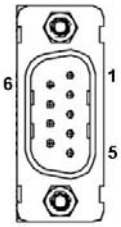


Table 2-33. Audio Jack Connector pin definition

COM1 RS-232 Serial Port Connector (COM1: D-Sub 9-pin male):



Pin	Signal
1	+5V / +12V / DCD, Data carrier detect **Note：Selected by JP1**
2	RXD, Receive data
3	TXD, Transmit data
4	DTR, Data terminal ready
5	GND, ground
6	DSR, Data set ready
7	RTS, Request to send
8	CTS, Clear to send
9	+5V / +12V / RI, Ring indicator **Note：Selected by JP1**

Table 2-34. COM1 RS-232 Serial Port Connector pin definition

PS/2 Mouse Connector (CN11: 6-pin green Mini DIN):

PIN	SIGNAL	PIN	SIGNAL
1	Mouse data	2	NC
3	Ground	4	+5V
5	Mouse clock	6	NC

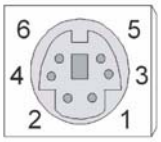


Table 2-35. PS/2 Mouse Connector pin definition

PS/2 Keyboard Connector (CN11: 6-pin purple Mini DIN):

PIN	SIGNAL	PIN	SIGNAL
1	Keyboard data	2	NC
3	Ground	4	+5V
5	Keyboard clock	6	NC

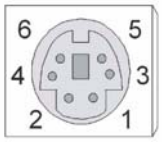


Table 2-36. PS/2 Keyboard Connector pin definition

VGA Display Connector (VGA1: D-Sub 15-pin female):

PIN	SIGNAL	PIN	SIGNAL
1	Red	2	Green
3	Blue	4	NC
5	Ground	6	Ground
7	Ground	8	Ground
9	VCC	10	Ground
11	NC	12	DDCData
13	HSync	14	VSync
15	DDCClk		

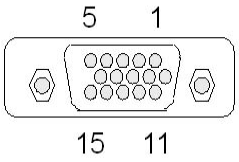


Table 2-37. VGA Display Connector pin definition

RJ-45 + 2 USB0-1 Connector (CN9):

PIN	SIGNAL	PIN	SIGNAL
1	Transmit output (+)	9	+5V
2	Transmit output (-)	10	USB1-
3	Receive input (+)	11	USB1+
4	NC	12	GND
5	NC	13	+5V
6	Receive input (-)	14	USB2-
7	NC	15	USB2+
8	NC	16	GND

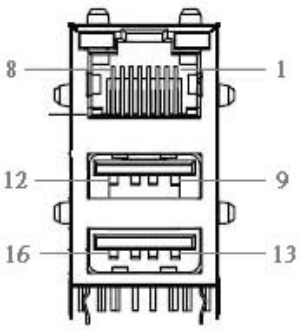


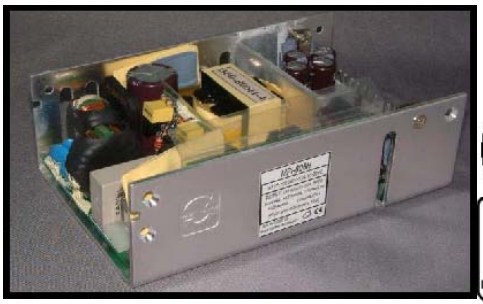
Table 2-38. RJ-45 + 2 USB 2.0 Connector pin definition

CHAPTER 6 *Hardware Specification*

Motherboard	
CPU	Intel® Celeron® M Processor 1.5GHz
System Memory	2 x DDR 266MHz SODIMMs, maximum 2GB
Chipset	Intel® 852GM Graphic Memory Controller Hub Intel® I/O Controller Hub 4 (ICH4)
Graphics	852GM GMCH internal ; VGA controllerCRT 2048x1536x8bit@60Hz 2 channels LVDS ; Dual Display ; Shared Memory up to 64MB
Network	10/100 Base-T Ethernet RTL8100C
Audio	6-Channel AC'97 Audio CODEC ALC655 ; Stereo 2W Power Amplifier LM4838
BIOS	Award PnP 4Mb Flash with console redirection
Expansion	Mini-PCI Socket x 1
Storage	
HDD	Internal 1 x 3.5" HDD (20G or above) or Internal 2 x 2.5" HDD
Flash Memory	Compact Flash (Type I & II)
Display	
LCD	12.1" TFT
Max. Resolution	1024 x 768
Brightness	250 ~350cd/m²
Touch Screen	Resistive
External I/O Ports	
USB	6 x USB 2.0 ports for future expansion (2* Internal, 4*External)
Serial	2x User available Com ports (Com 1&Com 2) ◦
Parallel	1 x Bi-directional Parallel Port Support ECP/EPP (IEEE 1284)
LAN	1 x RJ-45 Interface(10/100 Base-T Ethernet)
Keyboard	1 x PS/2 keyboard port
Mouse	1 x PS/2 mouse port
2nd VGA Output	VFD Customer Display (20 x 2)
Audio Jack	MIC-in, Line-out, Line-in
Cash Drawer	2 x RJ11 Single/Dual Cashdrawer port(with 12V output.)
Power	
Power Supply	ATX 80W, Input 100V~240V to output 5V/12V power supply
Power Consumption	60-80W Idle (Standard system & secondary LCD panel while accessing HDD).
Power management	I/O peripheral devices support power saving management
Integrated Options	
IDE Peripheral	1 x External IDE Device
Smart Card Reader	1 x Built-In Smart Card Reader, compatible with Microsoft PC/SC (USB Interface)
Magnetic Stripe Reader	1 x Build-In Magnetic Stripe Reader (PS2/KB) : ISO Standard (up to 3 tracks)
Wireless LAN	Wi-Fi IEEE 802.11b/g
Control/ Indicator	
Power Button	1
Power Led	1
HDD Led	1

Physical Dimensions			
Dimension (W)x(L)x(H)cm	Physical: 27.5(W) x 29.5(L) x 13.5 (H)cm		
	Pagage: 34(W) x 53(L) x 53 (H)cm		
Weight	N.W: 6 kgs		
	G.W: 7 Kgs		
Color	Dark Gray or White		
Environment			
Operating Temperature	0℃~ 45℃ (32℉ ~ 113℉)	Storage Temperature	-20℃~ 60℃ (-4℉~ 140℉)
Operating Humidity	0% ~ 80% RH non condensing	Storage Humidity	10% ~ 90% RH non condensing
Certification			
EMC & Safety	FCC, CE, RoHS, Class B		
Operation Systems			
OS support	Windows XP, XP Embedded, XP Professional for Embedded, WIN 2000 Professional Embedded, WIN NT 4.0, Redhat 7.2, WIN 98/ME, Linux		

Appendix I: *Power Supplely*



FEATURES

80W with 8.6CFM forced air- cooling, 60W convection cooling
Compact size with ATX output
PG/PF Signal
+5V Stand by & Remote On/Off
MTBF>130,000 hr. MIL-217F.

1. Description

MPI-806H is a compact size, ATX output power supply for industrial and embedded system application. The device utilizes a thermally efficient U channel chassis design. Designed to be convection cooling but however provided with optional cover and fan for customers' reference.

Output Voltage	Mini. Output Current	Rated Output Current	Max output Current (Note 1)	Line Regulation	Load Regulation	Ripple & Noise p-p (Note 2)	Initial Setting Accuracy (Note 3)
+5V	1A	5A	8A	1%	2%	50mV	5.08V to 5.13V
+12V	0A	1.5A	3A	1%	4%	120mV	11.4V to 12.6V
-12V	0A	0.5A		1%	5%	120mV	-11.4V to -12.6V
+3.3V	0A	4A	6A	1%	4%	50mV	3.10V to 3.50V
+5Vsb	0A	0.75A		1%	4%	120mV	4.80V to 5.20V

Total Output Power: 80W at 50°C environment temperature (Note 4).

Note: 1) The maximum total combined output power on the +3.3V and +5V rails is 40W.
2) Measured by a 20MHz bandwidth limited oscilloscope and the each output is connected with a 10µF Electrolytic Capacitor and a 0.1µF Ceramic Capacitor.
3) The +5V output is set between 5.08V to 5.13V by variable resistor and all output at 60% rated load and the other Outputs are checked to be within the accuracy range. .
4) Total maximum load cannot exceed 80W with 8.6 CFM forced air-cooling and 60W convection cooling.

2. Input Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Input Voltage-AC	Continuous input range.	90	115/230	264	VAC
Input Frequency	AC input.	47		63	Hz
Hold Up Time	Nominal AC Input Voltage (230VAC), rated load.	20			ms
Input Current	Nominal AC Input Voltage (115VAC/230VAC), rated load.			2/1	A
Inrush Current	Nominal AC Input Voltage (115VAC/230VAC), one cycle at 25°C.			30/60	A
Input Protect	Non-user serviceable internally located AC input line fuse.				

3. Output Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Efficiency	Rated load, 115VAC. Varies with distribution of loads among output.		70		%
Minimum load		See Chart of Description			
Ripple & Noise	Rated load, 20MHz bandwidth	See Chart of Description			
Output Power	Continuous output power.	See Chart of Description			
Line Regulation	Less than ±1% at rated load with ±10% changing in input voltage.	See Chart of Description			
Load Regulation	Measured from 60% to 100% rated load and from 60% to 20% rated load (60% ±40% rated load) for each output, and others Voltage setting at 60%.	See Chart of Description			
Turn-on Delay	Time required for initial output voltage stabilization	0.3		4	Sec

4. Interface Signals and Internal Protection

Parameter	Conditions/Description
Power On/Off	The power supply will be turned on when the power On/Off pin is connected to secondary GND
Power Good Signal	When power is turned on, the power good signal will go high 100ms to 500ms after all output DC Voltages are within regulation limits.
Power Fail Signal	The power fail signal will go low at least 1 mS before any of the output voltages fall below the regulation Limits.
Over Load Protection	Fully protected against output overload and short circuit. Automatic recovery upon of overload condition.

5. Safety Approvals, EMI and EMS Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Safety Approvals	UL, UL 60950, 3rd edition CB, IEC 60950-1 TUV, EN 60950-1: 2001		Approved		
Hi-Pot	Input to output	4242			VDC
Hold Up Time	Nominal AC Input Voltage (230VAC), rated load.	20			mS

Radiation	EN 55022 / CISPR 22 & FCC Part 15	B	
Conduction	EN 55022 / CISPR 22 & FCC Part 15	B	Class
EMS	IEC 61000-4-2, 8KV air discharge and 6KV contact discharge	3	
	IEC 61000-4-3, 3V/M	2	
	IEC 61000-4-4, 2KV line & PE	3	
	IEC 61000-4-5, 2KV	3	Level
	IEC 61000-4-6, 10V	3	
	IEC 61000-4-8, 10A/M	3	
	IEC 61000-4-11		